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ABRIDGMENTS

OF THE

Specifications

RELATING TO

SEWING AND EMBROIDERING.

PRINTED BY ORDER OF THE COMMISSIONERS OF PATENTS.

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NA

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PREFACE.

THE Indexes to Patents are now so numerous and costly as to be placed beyond the reach of a large number of inventors and others to whom they have become indispensable.

To obviate this difficulty, short abstracts or abridgments of the Specifications of Patents under each head of Invention have been prepared for publication separately, and so arranged as to form at once a Chronological, Subject-matter, Reference, and Alphabetical Index to the class to which they relate. As these publications do not supersede the necessity for consulting the Specifications, the prices at which the latter are sold have been added.

Many Specifications being yet unpublished, the only guide in discriminating subjects in such cases has been the titles of Patents, and as these are frequently defective, they may have led to an occasional omission.

When the entire series of Specifications shall have been printed it is intended to publish a new and complete edition of these Abridgments ; meanwhile, the manifest usefulness of such works, and the urgency of the demand for copies, have been considered a sufficient justification for the present issue.

In preparing this series of Abridgments the object has been to point out the various methods of sewing and embroidering, and the instruments used for producing the stitch (such as needles, shuttles, &c.); so that a person may readily select the Inventions belonging to that particular class in which he is interested; and he can then refer to the printed Specifications for the subordinate parts of the machines, such as the arrangements for giving motion to the thread carriers, for holding and feeding the fabric, &c. In some instances, however (as where parts of the Invention are applicable to sewing machines generally), all the improvements are particularized; and therefore this explanation is deemed necessary to prevent misconception.

The Inventions connected with the manufacture of bobbin net lace embrace many plans for producing threadwork ornaments or stripes; but although hooked needles and other interlooping instruments are employed in these cases, the Inventions can scarcely be classed with those for sewing and embroidering, and they will therefore appear in a distinct series. The Inventions relating to the manufacture of needles are also reserved for publication separately.

B. WOODCROFT.

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SEWING AND EMBROIDERING.

A.D. 1755, June 24.—N° 701.

WEISENTHAL, CHARLES FREDERICK.—Working fine thread into muslin after the manner of Dresden needlework, by means of a needle with two points, one at the head and the other at the opposite end, as usual; which needle is to be used by holding it with the fingers in the middle, so as not to require turning.

[Specification printed by Commissioners of Patents, price 3*d*. Notice in Rolls Chapel Reports, 6th Report, p. 128.]

A.D. 1770, March 22.—N° 955.

ALSOP, ROBERT.—Weaving embroidered stuffs in a loom, with one, two, or more shuttles.

[Printed, 3*d*. See Rolls Chapel Reports, 6th Report, p. 137.]

A.D. 1804, May 30.—N° 2769.

DUNCAN, JOHN.—Machinery for tambouring upon cloth, by which one person is enabled to work with a large number of barbed needles or hooks at the same time, instead of employing only one needle or hook, as when tambouring solely by manual labour. The barbed ends of all the needles pass simultaneously through the cloth; then each needle is supplied with thread by a feeding needle, which passes the thread around the tambouring needle and under the barb thereof; and when the tambouring needle recedes, it draws such thread, in the form of a loop, through the loop last drawn by it through the cloth. These movements are repeated until the pattern is complete; and when this is the case, the machinery is worked in a suitable manner to secure the ends of the threads. The pattern (which will consist of a number of similar figures) may be produced by moving the needles horizontally or vertically at the requisite times in front of the cloth, or by moving the cloth in front of the needles or hooks. The latter plan is preferred by the patentee, and is effected as follows:—The cloth is stretched in a vertical position between two cylinders, placed parallel to each other in an oblong frame, which slides freely up or down at pleasure in another frame; and the latter slides freely to and fro horizontally, carrying the first frame with it. Thus, either a vertical or horizontal motion may be communicated to the cloth; and when both are communicated at the same time, the cloth moves in an oblique direction. By these means, every rectilinear or curvilinear figure may be produced, and consequently, every pattern required.

[Printed, 5*s*.]

A.D. 1807, February 20.—N° 3012.

WINTER, James.—Apparatus to be used for sewing and pointing leather gloves, consisting of a pedestal supporting a pair of jaws, which receive the leather to be sewed or ornamented, together with an instrument termed an "index," formed with grooves on the top or face to guide the needles. One jaw is capable of turning on a joint, and is kept closed by a spring during the operation of sewing; it is opened, when required, by placing the foot on a treadle connected by a cord with a pin projecting from such moveable jaw. The index may be made of ivory, bone, brass, or any other fit material, and consists of two pieces or sides, either straight or curved, according to the part of the glove to be sewed, and capable of adjustment with regard to each other by means of a screw, so that the grooves on the top of the two sides may be made to correspond. In sewing, the needles are passed through the grooves in the index, which must be made of the depth required for the stitch,—the leather being placed even with face or top of the index. The grooves in the index may be varied, so that the different kinds of sewing and ornamental work may be performed with one, two, three, or four needles; and for single and double seaming, the index may be made without grooves on the face.

[Printed, 5*d*. See Repertory of Arts, vol. 10 (*second series*), p. 338; and Rolls Chapel Reports, 7th Report, p. 103.]

A.D. 1821, December 19.—N° 4627.

WINTER, James.—Improvements in the apparatus for sewing and pointing leather gloves described in the Specification of Letters Patent, dated February 20, 1807, N° 3012. In this instance the jaws which hold the leather, instead of opening and closing by a circular movement upon a joint, are made to open and shut by a parallel horizontal movement, effected by a slider and screw. The "indexes" for guiding the needles are connected to the upper part of the jaws by screws passing through elongated holes, which render them capable of adjustment.

Two indexes of improved construction are also described.

[Printed, 6*d*. See London Journal (*Newton's*), vol. 4, p. 12.]

A.D. 1829, May 2.—N° 5788.

BOCK, Henry, (*a communication from Josué Heilmann*).—Machinery for embroidering or ornamenting fabrics by the use of a large number of needles formed with an eye in the centre and a point at each end; which needles are passed through the fabric from opposite sides alternately by means of pincers, nippers, or "finger pieces." In this machinery an arrangement of apparatus upon the principle of the pentagraph is employed for governing or changing the relative positions of the fabric and the needles, so as to give to the embroidery or ornament the form or figure desired; and it is likewise proposed to apply this apparatus to machines in which tambouring needles are used.

[Printed, 2*s*. 8*d*. See London Journal (*Newton's*), vol. 9 (*second series*), p. 192; and Register of Arts and Sciences, vol. 4 (*new series*), p. 134.

A.D. 1835, November 14.—N° 6931.

CROPPER, James, and MILNES, John Brown, (*a communication*).—1. Machinery for embroidering lace, cloths, or other fabrics by means of needles having a point at each end and an eye in the centre; such needles being conducted through the fabric from opposite sides alternately by spring holders; and the position of the fabric being changed from time to time, in order to produce the required form of ornament, by apparatus acting upon the principle of the pentagraph.

2. Improvements in looms whereby the fabrics in course of weaving therein are at the same time embroidered by means of threads supplied from bobbin carriages, and which are laid on both the upper and under surfaces of the warp, and consequently form additional threads to those which are thrown between the warp threads by the crossing of the shuttle: the threads from the bobbin carriages are laid in such manner as to present an appear-

ance similar to that produced in embroidering with needles by passing ornamenting threads through the fabric.

[Printed, 2*s*. 4*d*.]

A.D. 1836, May 3.—N° 7079.

SNEATH, William.—Application of mechanism to bobbin net machinery for the purpose of producing thread-work ornaments on the bobbin net or lace whilst it is being made by the ordinary parts of the bobbin net machinery; or such mechanism may be combined into and form a machine independent of and separate from the machinery by which the bobbin net or lace is produced. The instruments used for making each pattern or ornament are, a bent or curved needle, with two eyes, for introducing the ornamenting thread through the lace and leaving a loop thereof; a pair of barbed points or instruments, barbed at opposite sides, for carrying the loop over the place where the needle is next to pass through; and a bent hook, by which the ornamenting thread is tied into a knot at the completion of the pattern by dragging one loop through another.

[Printed, 4*s*. 3*d*. See Webster's Reports, vol. 1, p. 264; and Rolls Chapel Reports, 7th Report, p. 175.]

A.D. 1836, November 28.—N° 7236.

SNEATH, William.—1. Producing embroidery or ornaments on muslins, silks, and other woven fabrics by applying to such purpose the mechanism referred to at N° 7079, and also the mode of fastening off each of the ornamenting threads at any determined period by drawing one loop within the other.

2. Apparatus for producing loopwork ornaments on woven fabrics, and for fastening off the same by drawing one loop within the other. Hooks and guards are used for making the ornaments on the fabric, which is moved vertically or horizontally according to the pattern; and the fastening off is performed by the hook which passes the ornamenting loops through the fabric, aided by loop-openers.

[Printed, 2*s*. 11*d*. See Rolls Chapel Reports, 7th Report, p. 181.]

A.D. 1841, May 4.—N° 8948.

NEWTON, Edward, and ARCHBOLD, Thomas.—Machinery for holding a series of gloves or the cut-out materials for gloves, and producing ornamental or tambour work on the back of each at the same time, in place of making a single loop at a time by hand. Each glove or portion of material cut out to form a glove is secured in a frame or holder made with three long openings or slots, through each of which two needles work, in order to produce two rows of stitches or loops at such parts of the material;—there being six needles to each glove, producing six rows of stitches. Each needle is made with an eye near its point to receive the thread, which it carries upwards through the glove, and, on receding, leaves it in the form of a loop; this loop is caught by a hook, and drawn lengthwise over the spot where the needle will next pass through the glove; then, on the needle ascending through the glove and through the loop, the hook releases the loop, which is drawn tightly round the stem of the needle; and as the needle recedes, the hook catches the newly-formed loop and draws it lengthwise, as above described. The machinery also includes suitable arrangements of parts for holding the ends of the threads until they are securely fastened in the work, and for cutting the threads when the rows of stitches or loops are completed.

[Printed, 7*s.* 2*d.* See Mechanics' Magazine, vol. 35, p. 398; and Inventor's Advocate, vol. 5, p. 309.]

A.D. 1844, March 14.—N° 10,102.

LISTER, Samuel Cunliff, and AMBLER, James.—Applying fringes to shawls and other articles by means of machinery furnished with a series of upright fixed needles (each having an eye near the point thereof), whereby the threads intended to form the fringe are passed through the shawl or other article. When the shawl has been pressed down upon the needles it is slightly raised, so as to cause the portion of thread between it and the eye of each needle to slacken, in order that the loose ends may be drawn through the shawl by the workman; the shawl and the ends of the thread being then securely held between a beam and a cloth presser are raised to a suitable height, and the threads are thereby drawn through the eyes of the needles to the extent necessary to make the fringe of the desired length; after which the threads are cut off above the needles, and remain attached to the shawl.

[Printed, 6*d.* See Repertory of Arts, vol. 4 (*enlarged series*), p. 340.]

A.D. 1844, April 2.—N° 10,134.

BOSTWICK, LEONARD, (*a communication*).—Machine for sewing pieces of cloth or other material together by means of a needle and thread. The cloth passes between several toothed wheels and pinions, and, by the action of the teeth thereof, is formed into doubles or crimps, and pressed in that state on to the needle, which, though not fixed, is always stationary in a horizontal position; and when the work has passed through the machine it will be found that a running stitch has been produced. The needle has an eye at one end for holding the thread, and is bent, in order that it may be placed over one of the pinions, and thereby always kept up to its work, and prevented from running out of the machinery.

[Printed, 6*d*. See London Journal (*Newton's*), vol. 25 (*conjoined series*), p. 304.]

A.D. 1844, December 7.—N° 10,424.

FISHER, JOHN, and GIBBONS, JAMES.—1. Working ornamental designs on lace or net and other fabrics by machinery, in such manner that two threads are caused to loop together, one thread passing through the fabric and the other looping therewith on the surface without passing through the fabric. The lace or other fabric is moved by the machinery in various directions according to the nature of the pattern;—these movements, as well as those of the ornamenting instruments, being regulated by jacquard or similar apparatus. The instruments used for working each repeat of the pattern are a curved needle beneath the fabric, and a second needle with a loop guide or retainer above; and the several sets are arranged in a row across the machine. When the point of the curved needle has ascended through the fabric, the point of the upper needle enters between the former and its thread; and on the curved needle descending, it leaves upon the upper needle a loop of its thread, which is then pressed further on by the guide. The fabric being moved according to the pattern to be produced, the curved needle again ascends, and at the same time the upper needle is moved in such manner that it passes its thread around the curved needle, and then retires through the loop of the lower thread previously upon its stem. After this the upper needle, again advancing, enters between the curved needle and its thread as before, and the above movements are repeated.

2. Machinery for sewing thread, yarn, gimp, cord, or fabrics in pattern on the surface of fabrics. This machinery is similar to the preceding, except that the upper needle and loop guide are removed, and instead thereof a shuttle is used, carrying a thread, gimp, or cord. A reciprocating motion is imparted to the shuttle, so that at each ascent of the needle it will pass between the thread and the bent part of the needle, leaving its own thread, which is sewed or fastened down by the thread of the needle, on the latter descending. When the needle again rises, the shuttle will pass between the thread and needle in the opposite direction, leaving its own thread as before, and so on until the pattern is completed. If desired, a second fabric may be placed on the fabric to be ornamented, and, when sewed together, the former may be cut away between the figures or patterns.

3. Causing the apparatus used for producing tambour work, or other ornamental needlework on lace or net and other fabrics, to be governed or controlled by jacquard or perforated cards, or plates or surfaces having "transposable risers and fallers" thereon.

4. "Causing the bobbin or carriage threads of twist lace machi-
" nery to traverse, when using two warp threads to each bobbin
" thread, by which the character of net fabrics will thereby be im-
" proved, by having the crossing at the tops and bottoms of the
" meshes produced by the crossings of bobbin threads; and when
" desired to make single pillars at any parts, the extra warp
" threads may be left out in the working with their bobbin threads,
" so as to allow of such extra warp threads being cut off at those
" parts."

5. So arranging and working twist lace machinery, that the warp threads are governed by independent instruments passing amongst them, actuated by jacquard or perforated cards, combined with the use of a suitable arrangement of apparatus to cause the working of the bobbin or carriage threads to be governed or controlled by jacquard or perforated cards.

[Printed, 6*s*. 3*d*.]

A.D. 1845, June 10.—N° 10,716.

FISHER, John, GIBBONS, James, and ROE, Thomas.—

1. Mode of making lace or net with vandyked or scolloped edges.

2. Method of constructing and arranging apparatus for giving

motion to guide and other bars of lace machinery requiring various movements to produce different effects in working.

3. Improvements in the machinery used in producing warp fabrics.

4. Improvements in arranging the apparatus for producing ornamental tambour or looped work on lace and other fabrics, which formed the first part of the invention protected by Letters Patent, dated December 7, 1844, N° 10,424. In the former Specification such apparatus was described as being suitable for producing one row of figures or designs at the same time by a row or series of sets of ornamenting instruments. The present improvements consist in so arranging the machinery that several rows of instruments may be brought into action simultaneously, so as to produce a series of rows of designs or ornaments.

[Printed, 8*s.* 9*d.*]

A.D. 1846, January 6.—N° 11,025.

WALKER, ARTHUR ELDRED.—Apparatus for sewing fabrics together by a needle and thread. The needle is straight, and is kept stationary in a horizontal position by two catches, which have at all times a tendency to press against corresponding stops on the needle, but are respectively held back at proper intervals to allow the fabrics which have accumulated on the needle to pass under them. The fabrics are fed on to the needle by means of a rising and falling bar, which alternately carries them above and below the point of the needle; and as the fabrics are constantly drawn along the needle by rollers, this rising and falling movement will cause the fabrics to pass on to the needle in an undulating form, whereby a running stitch will be produced.

[Printed, 2*s.* 6*d.*]

A.D. 1846, December 1.—N° 11,464.

THOMAS, WILLIAM, (*a communication*).—Machinery for sewing or stitching fabrics, so as either to unite or ornament the same. The principal feature is the combination of a vibrating needle with a shuttle; which shuttle, when the point of the needle has entered the cloth or other fabric and formed a loop of thread, passes through that loop, and leaves a thread on the face of the cloth; whereby the needle, instead of drawing back the thread with it, on being withdrawn from the cloth, is caused to leave a tightened loop on the opposite side of the cloth to that at which it entered; and the fabric then passing forward a distance corresponding to the length of stitch required, is again pierced by the needle, and a fresh stitch produced. The needle used in this machinery is curved, and has an eye near the point. The fabric to be sewed may be carried by a steel rib or plate, or it may be held by a sliding frame, whereby it can be moved in any required direction to receive straight and curved lines of stitches, and likewise stitches which will form various patterns of embroidery.

The invention also includes the employment of a helical needle for joining two edges together, so as to produce that kind of sewing which is frequently used in glove-work, and which covers the edges with the stitches.

[Printed, 1*s.* 6*d.*]

A.D. 1846 . . . . N° 11,464*.

DISCLAIMER to the Specification of Letters Patent, N° 11,464, filed in the Great Seal Patent Office, 9th May 1855.

[Printed, 3*d.*]

A.D. 1848, February 9.—N° 12,060.

MAGNIN, JEAN MARIE, (*partly a communication from Barthelmy Thimmonnier*).—Machine for sewing, embroidering, and making cords or plats by the employment of a needle or hook, a nipple, and a rotatory thread carrier in combination. The thread carrier is situated beneath the table whereon the fabrics to be sewed or embroidered are placed. The needle has a descending and ascending movement, so as to cause its hooked end to pass through the fabrics down to the thread carrier, and then ascend therefrom. The nipple surrounds the stem of the needle, and descends on to the fabric at stated intervals. When the hooked end of the needle descends through the fabrics, the nipple comes down, and holds the fabrics firmly; the thread carrier passes the thread around the needle, which then ascends, carrying the loop of thread through the fabrics, and through the loop previously made; after which the nipple rises, the fabrics are moved onward a distance equal to the length of stitch required, and the above-described movements are repeated.

If the above mechanism is put in operation without placing any fabrics on the table, a looped cord is produced.

[Printed, 3*s*. See Artizan, vol. 6, p. 85; and Patent Journal, vol. 5, p. 317.]

A.D. 1848, July 26.—N° 12,221.

THOMAS, William, (*a communication*).—1. Improvements in weaving ornamental figures in stay fabrics.

2. Mode of taking up the work when weaving gores in stay fabrics.

3. Improvements in the means of weaving gores and plain parts of stay fabrics.

4. Apparatus for sewing fabrics, in which the needles, having an eye in the centre and pointed at each end, are simply caused to pass through the fabrics from either side alternately, and the threads are drawn through after each ascent by hooks or other suitable instruments.

5. Producing a tambour stitch by introducing the thread through the fabric by means of a curved needle, and causing a hooked instrument to take hold of the thread which lies across the bend of the needle, and hold it in the form of a loop whilst the needle returns; and on the needle again entering the fabric, the point passes through the loop held by the instrument, the hook of which then passes to the right (releasing the loop), and, in passing back to the left again, takes another quantity of thread to form a new loop.

6. Mode of using a shuttle in connexion with a hooked instrument in order to produce stitching. The hook passes through the fabric, and the thread is lapped on to it by a guide or bent arm; the hook then returns with the thread in the form of a loop, and the shuttle being thrown across, its point opens the loop, and the shuttle passes through, leaving its thread therein; after which, by the action of a spring, the thread carried by the guide is drawn back, so as to close the loop. This apparatus may be used for sewing leather as well as fabrics, in making boots and shoes; it may

also be employed for stitching fabrics, and for sewing and connecting fabrics and parts of garments.

7. Improvements in the manufacture of boots.

8. Mode of connecting trousers and gaiters to boots and shoes.

[Printed, 4s. 7d. See Mechanics' Magazine, vol. 50, p. 114; Artizan, vol. 7, p. 154; and Patent Journal, vol. 6, pp. 163 and 167.]

A.D. 1849, February 8.—N° 12,462.

BROWN, Robert.—Arranging machinery to effect the sewing or stitching of one or more pieces of fabric or material, by passing a needle (having an eye in the centre and pointed at each end) through the same, from opposite sides alternately,—the operation being facilitated by a perforating instrument, which makes the holes for the needles; also so arranging the machinery that pegs and pins for rivets may be inserted through the holes made by the perforating instrument, and such pins may have their ends acted on to rivet two or more pieces of metal together. One needle is used to sew with a single thread two or more pieces together; but when stitching is to be performed or a double thread used, two needles are employed. The thread is attached at one end to the eye of the needle, and at the other end is held in the work after the first sewing through has taken place; and in order to draw the thread through and tighten the new stitch after the needle, two hooked instruments are used, one at each side of the fabric. When an "over-and-over" stitch is required, the frame that contains the fabric is caused to move out of the way after every other movement of the needle, so that only each alternate movement will produce a stitch.

[Printed, 2s. 7d. See Mechanics' Magazine, vol. 51, p. 141.]

A.D. 1849, August 9.—N° 12,736.

THOMAS, William, and MARSH, John, (*partly a communication*).—1. Improvements in the manufacture of looped fabrics.

2. Improvements in weaving fabrics for making stays and other parts of dress where the fabrics are required to be of different widths.

3. Machinery for producing tambour stitches on stays and other articles of dress. The work to be tamboured is laid on a table, and held thereon by an instrument formed with an eye, through which

and through the fabric a hooked instrument descends, and the thread is carried around it by a thread carrier; the hooked instrument then ascends and draws the loop of thread through the fabric and through the loop previously formed.

4. Mode of weaving thick stay cloth, consisting of two fabrics stitched together by stitching warp, and so as to receive filling weft between the two fabrics.

5. Improvements in giving shape to the bust, in place of the wadding usually employed.

6. Means of fastening stays and parts of dresses.

7. Making hoops or apparatus for distending dresses.

8. Mode of weaving moreen to produce crinolines and such like stiffened parts of dress.

9. Improvements in measuring apparatus.

[Printed, 5*s.* 4*d.* See Mechanics' Magazine, vol. 52, p. 138; and Patent Journal, vol. 8, p. 261.]

A.D. 1849, August 30.—N° 12,752.

MOREY, Charles.—1. Producing a "basting" or "running" stitch for uniting coarse materials (such as canvas or sacking), by introducing the fabric between a pair of toothed wheels, which give it an undulating form and push it on to a long straight needle, the point whereof rests in a circular opening formed by the coincidence of a series of notches in the teeth of each wheel, and the head (which is made with an eye to receive the thread) is sustained by an upright or standard.

2. Executing sewing in the chain or tambour stitch, by means of a needle and a hooked instrument, or a needle and a pointed instrument. The needle (which is formed with an eye near its point) perforates the cloth, carrying with it the thread which is taken by the hooked or pointed instrument and held in the form of a loop whilst the needle recedes and the cloth is shifted; when this has been effected, the point of the needle again passes through the cloth and through the loop held by the hook or point, which then releases it, and taking hold of the thread just introduced draws it into a loop, as before.

3. Sewing by means of a vibrating needle and a shuttle travelling in a circular shuttle-race. The needle is curved with an eye near its

point to receive the thread, which it carries through the cloth and across the shuttle-race; and when the needle recedes it leaves the thread in the form of a loop, through which the shuttle passes, leaving a filling thread therein.

4. Machine in which the sewing is effected by means of two threads, as in the last machine, but instead of the shuttle having a rotary motion, a reciprocating curvilinear motion is imparted to it.

5. Machine for producing a similar stitch to that produced by the first machine, but applicable to finer descriptions of work,—the arrangements permitting the use of a finer needle, which is sustained throughout its whole length. Instead of two toothed wheels, one toothed wheel and a rack bar are used. The needle is placed in a channel formed in the rack bar and toothed wheel, and retained in its proper position by a holder at the hinder end. Motion being given to the toothed wheel and rack bar, the fabrics (such as the gores of umbrellas) are pushed on to the needle in an undulating form, until the point of the needle emerges from the fabrics. When this has been effected, a thread is passed through the eye (which is near the point of the needle), and the motion being reversed, the fabrics are drawn off the needle; and then the thread, which is thus introduced into them, is fastened at each end.

[Printed, 4*s*. See Mechanics' Magazine, vol. 52, p. 194; and Patent Journal, vol. 52, pp. 42 and 67.]

A.D. 1849, November 13.—N° 12,842.

PARNALL, ROBERT.—Facilitating the operation of stitching and sewing by the use of an instrument formed with fine teeth or points for piercing or perforating a series of holes in woven fabrics, through which holes the thread is to be passed by a needle in the ordinary manner.

[Printed, 1*s*. 5*d*. See Mechanics' Magazine, vol. 52, p. 397.]

A.D. 1850, April 15.—N° 13,038.

REID, ROBERT.—Sewing or working figures into cloth during the process of weaving, by means of small bobbins or pirns carried by suitable shuttles.

[Printed, 1*s*. 1*d*. See Repertory of Arts, vol. 17 (*enlarged series*), p. 91; Mechanics' Magazine, vol. 53, p. 317; and Patent Journal, vol. 10, p. 33.]

A.D. 1850, November 7.—N° 13,321.

LEROW, John Alexander.—Apparatus for sewing by means of a vibrating or reciprocating needle and a shuttle travelling in an endless shuttle-race; the needle (which is straight, with an eye near its point) passing through the fabric and forming loops in which a filling thread is left by the shuttle.

[Printed, 7*d*. See Mechanics' Magazine, vol. 54, p. 397.]

A.D. 1850, November 7.—N° 13,325.

CHRISTIE, David, (*a communication*).—Machine for opening and cleaning cotton, wool, &c.

Fine comb cylinder, applicable to machines for opening and cleaning fibrous substances.

Machine for cleaning and carding cotton, wool, &c.

Machine for opening and separating the fibres of cop bottoms or other thread waste, so as to prepare the same for carding; such machine being also adapted to the purpose of opening or picking raw cotton or other fibrous substances.

Improvements in machinery for opening cop bottoms and other hard twisted waste.

Card clothing for covering rollers used in machinery for carding flax, coarse wool, cotton waste, &c.

Improvements in machinery for spinning and doubling.

Machinery for twisting shawl fringes and other articles of the same description.

Jacquard looms for weaving figured fabrics.

Circular rotary knitting machines.

Machinery for packing and pressing substances.

Sewing machine, in which a needle attached to a vibrating or reciprocating arm carries the thread through the fabric, so as to form a loop, and a filling thread is then left therein by a shuttle which travels to and fro in a straight shuttle-race.

[Printed, 4*s*. 9*d*. See Mechanics' Magazine, vol. 54, p. 398; Artizan, vol. 10, p. 120; and Patent Journal, vol. 11, pp. 119 and 143.]

A.D. 1851, February 7.—N° 13,494.

ROBINSON, Frederick F.—Machine for producing either stitch and backstitch sewing or ordinary stitching. The patentee states that by stitch and backstitch sewing he means "that in "which a thread after being carried through a piece of cloth from "its front to its rear side is moved backwards the width of the "stitch, is next again carried through from the rear side to the "front side of the cloth, is next carried forwards laterally double "the width of the stitch, or some other suitable distance greater "than the width of the stitch, and is next passed through the "cloth from its front side to its rear side; such operation being "successively repeated in the formation of the stitches." By ordinary stitching he means "that in which a thread is passed "through the cloth from its front side to its rear side, is next "moved forwards the width of the stitch, is carried backwards "through the cloth from its rear side to its front side, is next "carried forwards the width of the stitch, and is again passed "through the cloth from its front side to its rear side, and so on. "This is frequently called the running or basting stitch." The apparatus may be also adapted to the production of the ordinary cordwainer's stitch, which is made by two threads crossing each other every time they are passed through the cloth.

The principal operating parts are two curved needles, having a notch or eye near the point suitably shaped to enable them to act as hooks, and two thread guides. The needles are fixed to the legs of a vibrating frame, with their points towards each other at opposite sides of the cloth, so that as one needle advances towards the cloth the other recedes from it. With this apparatus only a short piece of thread is employed, such as a person uses when sewing by hand with an ordinary needle. The thread is secured at one end by a spring in front of the cloth, and then laid over the back needle after it has passed through the cloth, so that on the return of the needle its eye will catch the thread and draw it through the cloth; as the needle continues to recede it draws the thread with it until the free end of the thread is drawn through the cloth, and then the thread is laid by the back guide over the front needle, which has in the meantime passed through to the rear side of the cloth; the return movement of the front needle draws the thread through to the front side of the cloth, where it is laid by the front guide over the back needle, and the above movements are repeated.

To produce stitch and backstitch sewing, the two needles must not stand in the same vertical plane, but should be arranged in two vertical parallel planes, situated at a distance apart equal to the length of a stitch, and the cloth holder should be moved forward only during each outward movement of the needle frame. For ordinary stitching, the two needles must be arranged in the same vertical plane, and a forward movement of the cloth holder should take place during each movement of the needle frame.

[Printed, 10*d*. See Repertory of Arts, vol. 17 (*enlarged series*), p. 336; Mechanics' Magazine, vol. 54, p. 437; and Patent Journal, vol. 12, p. 61.]

A.D. 1852, June 10.—Nº 14,161.

HOULDSWORTH, Henry.—Embroidering machinery constructed on the principle of the invention for which Letters Patent were granted to Henry Bock, May 2, 1829, Nº 5788; also threading stands to be used in connexion therewith for threading the needles, in order to secure a uniform length of the embroidering thread.

[Printed, 2*s*. 5*d*. See Mechanics' Magazine, vol. 57, p. 497.]

A.D. 1852, July 27.—Nº 14,240.

HOULDSWORTH, Henry, and HOULDSWORTH, James —Improvements in fixing, extending, and holding cloth to receive embroidery.

[Printed, 1*s*. 3*d*. See Mechanics' Magazine, vol. 58, p. 135.]

A.D. 1852, August 10.—Nº 14,256.

HUGHES, Edward Joseph, (*a communication*).—1. Improvements in mules for spinning cotton, wool, &c.

2. Looms for weaving cut-pile fabrics.

3. Relates to machinery for stitching or sewing, and consists, first, in employing a straight needle, working in a vertical position, in combination with a needle of a curvilinear or other suitable shape, having an alternate rotary movement in a horizontal direction, the straight needle carrying a thread downwards through the fabric, and forming it into a loop, through which the loop of a second thread is passed by the curvilinear needle, and then through this second loop a fresh loop is passed by the straight needle, thus producing a "cord or chain stitch" at the back of the fabric. Secondly, in an improved arrangement of mechanism for working a needle and shuttle in combination. Thirdly, in using two straight

needles, with two adjustable spring needle bars, working in the same horizontal plane obliquely towards each other from opposite sides of the cloth, which moves in a vertical plane, together with adjustable guides for regulating the length of the stitch, and a weight, or an equivalent, for drawing the cloth through guides as fast as it is sewed, and released by the needles, one of which is always in the cloth, to prevent it from being entirely drawn through. In the operation of sewing, each needle successively passes through a loop of the thread carried by the other needle (which is at the moment stationary) and through the cloth, forming a loop on the opposite side of the latter; the second needle being now withdrawn leaves its loop on the stem of the first needle, and, again advancing, passes through the loop of the first needle and through the cloth; after which, the first needle is withdrawn, leaving its loop on the stem of the second needle, and then it is passed through the loop of the second needle and through the cloth, as before. The stitch produced is termed the "chain stitch," the two threads having a double lock with each other.

[Printed, 1*s*. 3*d*. See Mechanics' Magazine, vol. 58, p. 155.]

A.D. 1852, September 10.—N° 14,287.

BERNARD, Julian.—1. Novel mechanical arrangements and combinations for lasting or mounting the uppers upon boots and shoes.

2. Mode of piercing or screwing holes in the soles of boots and shoes, and inserting and moulding plastic or soluble materials into suitable holes made or formed for that purpose in the parts to be connected.

3. Stitching or sewing the outer soles of boots and shoes, whether composed of one or more thicknesses, near and around the edges; such outer soles being attached to the inner soles and uppers by the means described under the second head of this invention; and the stitching being intended for ornament as well as for connecting the edges when composed of two or more thicknesses, and not for the purpose of connecting such sole or soles to the upper by means of welts, as usual.

4. Mode of waterproofing and strengthening the uppers of boots and shoes, whereby the stitching of the strengthening pieces or lining can be dispensed with.

5. Mechanical arrangements intended, firstly, to produce "double stitching," in which two threads or filaments are required to be passed through the same hole, as practised by saddlers and boot makers; and secondly, to produce "back and fore stitching," as practised by tailors for the seams of garments. The double stitching is effected by means of two ordinary needles and three needle holders, one holder being placed at one side of the frame carrying the material to be sewed, and the other two holders on the opposite side of the frame. A hole is made in the material by a piercer, and the needle held by the single holder is passed by it through the hole, and received by one of the holders on the opposite side; then the needle held by the third holder is passed through the hole, and received by the single holder; after which the material is moved forward, a hole is made by the piercer, and the needle held by the single holder is turned over, so as to present its point to the material, and is passed through the hole, and received by the third holder; then the needle held by the second holder is turned over, and passed through the hole; and in this manner the two threads or filaments are successively passed through the same hole in opposite directions. The back and fore stitching is produced by using one ordinary needle and two holders, and communicating to the frame that carries the material, between its successive forward motions, a reversing movement equal to half its forward motion. The thread having been carried by the needle through the material, the latter is moved forward the length of two stitches; the needle is then passed through in the opposite direction, and the material is moved backward the length of one stitch; after which, the needle is again passed through, and the above movements are repeated. Instead of using a needle of the ordinary construction, a double-pointed needle may be substituted; and the needle may be made of an angular form in the cross section, so as to produce stitching or sewing different from that produced by ordinary needles.

[Printed, 5*s*. See Mechanics' Magazine, vol. 58, p. 255.]

A.D. 1852, October 19.—N° 14,328.

NEWTON, WILLIAM EDWARD, (*a communication*).—Making a seam by carrying a thread through the fabric, and forming it into a loop on the under side thereof, passing through this loop the loop of a second thread, and then carrying through the latter a loop of the first thread, so as to form a double loop stitch. Using for this purpose two needles operating alternately, one needle being straight and working vertically, and the other being nearly circular and having a partial rotary movement in a horizontal plane.

Mode of feeding or moving the cloth along under the vertical needle.

Arrangements for taking up the slack of the thread of the horizontal needle and of the thread of the vertical needle; for folding the binding upon the fabric; and for tightening the spools and obtaining a proper and even tension upon the respective threads.

[Printed, 1*s*. 1*d*.]

PATENT LAW AMENDMENT ACT, 1852.

1852.

A.D. 1852, October 6.—N° 251.

BELLFORD, AUGUSTE EDOUARD LORADOUX, (*a communication*).—" Seaming lathes," or machines for sewing by the use of two threads, one of which is carried through the cloth by a reciprocating needle and formed into a loop; this loop is extended by a rotating hook, and either conducted over a stationary bobbin that carries the second thread, or else a moveable bobbin is passed through the extended loop; and then the needle, in moving through the cloth to form a fresh loop, draws the extended loop tight, and thus completes the stitch.

[Printed, 11½*d*.]

A.D. 1852, October 12.—N° 347.

BELLFORD, AUGUSTE EDOUARD LORADOUX, (*a communication*).—Machinery for sewing with two threads, which are passed through the cloth from opposite sides in a regular alternate succession of loops, each loop passing through its predecessor, and being passed through by its successor. This is effected by two straight needles, arranged at any suitable angle to each other, and protruding through the cloth rom opposite sides alternately; each needle carrying a certain portion of thread, which is caught by the other needle as it passes through the cloth, and formed into a loop by the withdrawal of that needle by which it is carried.

[Printed, 11½*d.*]

A.D. 1852, October 16.—N° 413.

JUDKINS, Charles Tiot.—Apparatus for sewing or stitching by causing a straight vertical needle (having an eye near its point to receive a thread) to descend through the cloth and form a loop, through which a second thread is carried by a shuttle moving to and fro horizontally.

[Printed, 8½*d.*]

A.D. 1852, November 6.—N° 658.

CORRY, John Ryall, and CORRY, James Barrett.—Using a new form of stitch for connecting the parts of gloves elastically, and so rendering the same more durable;—such stitching being termed "elastic protective stitching." Machinery may be employed in the production of the stitch, or it may be done by hand.

[Printed, 5½*d.*]

A.D. 1852, November 10.—N° 700.

JOHNSON, William, (*a communication*).—Mechanism for sewing by means of a hooked needle, somewhat similar to a crotchet needle (but fitted with a sliding piece to close the hook previous to its withdrawal from the fabric), working with an up-and-down movement in combination with thread guides beneath the fabric, so as to produce either the well-known chain or looped stitch with a single thread, or a stitch formed of two threads in such a manner that the loops of one thread shall alternately pass through or be interlooped with those of the other thread. In producing the stitches with two threads, the needle descends through the fabric, and one of the guides supplies its hook with a thread, which it draws up in a looped form through the fabric and through the loop previously made; the fabric now moves forward, and the needle, descending through the last loop, passes through the fabric in a different place, and the second guide places its thread in the hook, which draws it out in the form of a loop through the loop of the other thread.

[Printed, 2½*d*.]

A.D. 1852, November 11.—N° 713.

JOHNSON, John Henry, (*a communication*).—Machinery for sewing and stitching leather and woven fabrics, in which a straight needle descends vertically through the material with its thread, and in ascending again forms a loop, through which a shuttle now passes, leaving a second thread therein.

[Printed, 7½*d*.]

A.D. 1852, December 6.—N° 975.

PATON, William.—Manufacturing a substitute for the leather, gutta percha, or other driving bands at present in use, by sewing or otherwise attaching together a series or row of cotton bands, so as to form a flat driving band like the flat ropes used in mining.

[Printed, 2½*d*.]

1853.

A.D. 1853, January 18.—N° 124.

NEWTON, Alfred Vincent, (*a communication*).—Arrangement of machinery wherein a bearded needle is employed for throwing a line of looped stitches into the fabric required to be stitched. The needle has a quick reciprocating motion, similar to that of the needles of stocking frames, and is in like manner supplied with thread; so that when it passes through the fabric the thread is laid under the beard, and by the return movement of the needle it is drawn in the form of a loop through the fabric and through the previously made loop; and in this manner a line of stitches is formed, the thread appearing double on one side of the fabric and single on the other side.

[Printed, 6½*d.*]

A.D. 1853, February 15.—N° 398.

DIRCKS, Henry, (*a communication*).—Machine for sewing by a straight needle moving up and down vertically, and a shuttle working to and fro horizontally.

[Printed, 4½*d.*]

A.D. 1853, April 11.—N° 869.

NICOLL, Donald.—1. Improving coats, paletots, and such like articles of male apparel, by inserting a "sye piece" under the arms, and thereby dispensing with a cross seam in the waist.

2. Attaching trousers and waistcoats together, so as to dispense with the use of braces passing over the shoulders.

3. Mode of uniting or forming the seams of garments by sewing, so as to produce seams which do not require turning in or doubling.

[Printed, 2½*d.*]

A.D. 1853, April 21.—N° 966.

JOHNSON, William H.—Making what the patentee terms the "belaying double loop stitch," with a single thread, by the employment of one needle (having an eye near its point), and a double spring hook, over which the loops are formed,—the needle working vertically and having a vibratory side motion, so that each time it passes through the cloth, the latter is moved forward a sufficient distance for the succeeding perforation. The result of the operations of the above-named parts being, in the words of the patentee, "the forming or making of a seam from a single thread, by the "running of a loop of the thread through the material to be sewn, "the running of a second loop through the material and putting "the first loop through it, the running of a third loop through the "material and through the first-named loop, the carrying of a "fourth loop through the material and putting the third through "it, and so on, putting the first loop through the second and "around the third, the third loop through the fourth and around "the fifth, and so on, forming the belaying double loop stitch "herein described."

[Printed, 7½*d.*]

A.D. 1853, April 27.—N° 1026.

THOMAS, William Frederick.—Improvements in that class of sewing or stitching machinery in which two threads are used, one conducted by a needle and the other by a shuttle or other thread carrier, and the two threads interloop together to produce the required sewing or stitching.

[Printed, 6½*d.*]

A.D. 1853, May 10.—N° 1150.

JOHNSON, William, (*a communication from William Wickersham*).—Mechanism for sewing by means of a hooked needle, somewhat similar to a crochet needle (but fitted with a sliding piece to close the hook previous to its withdrawal from the fabric), working with an up-and-down movement in combination with thread guides beneath the fabric, so as to produce either the well-known chain or looped stitch with a single thread, or a stitch formed of two threads in such manner that the loops of one thread shall alternately pass through or be interlooped with those of the other thread. In producing the stitches with two threads, the needle descends through the fabric, and one of the guides supplies its hook with a thread, which it draws up in a looped form through the fabric and through the loop previously made; the fabric now moves forward, and the needle descending through the last loop, passes through the fabric in a different place, and the second guide places its thread in the hook, which draws it out in the form of a loop through the loop of the other thread.

[Printed, 2½*d.*]

A.D. 1853, May 13.—N° 1185.

BARTLEET, Robert Smith.—Making the needle holders or sockets of sewing machines capable of receiving needles of different sizes, and causing the table or surface through which the needles pass to be moveable, to allow of the same being adjusted to different positions when using needles of different sizes.

[Printed, 2½*d.*]

A.D. 1853, July 14.—N° 1676.

BARTLEET, Robert Smith. — Relates to sewing-machine needles. Consists in manufacturing the stems of such needles, when smaller at one end than the other, by stamping or pressing in dies. Forming the points, grooves, and impressions for the eyes of such needles simultaneously by stamping or pressing in dies. Making needles having points with angular sides, or with lancet points, or with two convex sides with or without cutting edges, and with or without grooves or recesses for the thread. Forming the needles with knobs at the ends. Burnishing the eyes of such needles with wire.

[Printed, 5½*d.*]

A.D. 1853, July 19.—N° 1713.

DART, Richard, and SILVERWOOD, Edward.—Adaptation of loom machinery to the purposes of embroidery for badges worn by the police, railway officials, and other officers, which require a succession of figures.

[Printed, 3½*d.*]

A.D. 1853, August 12.—N° 1894.

BARTLEET, Robert Smith.—Relates to various modifications and novel arrangements of parts of apparatus used for sewing where needles or other thread carriers are used (shewn applied to a machine in which a straight needle works vertically in combination with a curved or nearly circular needle moving horizontally); also to means for holding two or more thicknesses of fabric together whilst being sewed.

Consists in improvements in parts for holding straight needles, and adjusting the position of the same.

Applying a gauge to the edge of the fabric in order that the stitches may follow each other in a regular or given line.

Applying an indicator to the instrument which regulates the length of the stitches, to show the length of stitch being produced.

Facilitating the movement of the fabric over the table or bed of the machine by the application of rolling surfaces to the table or bed; also applying plates of glass thereto for the like purpose.

Making the foot which holds the fabric of glass; likewise applying an indicator to the foot to assist in obtaining parallel rows of sewing.

Employing clips or holders to hold two or more thicknesses of fabric or material whilst being sewed together, in place of what is called "basting."

Giving the requisite tension to thread as it is drawn off bobbins, spools, or reels, by means of a friction break.

[Printed, 6½*d.*]

A.D. 1853, August 15.—N° 1910.

DOUGLASS, ARCHIBALD.—The object of this invention is by mechanical means to imitate as closely as possible the ordinary hand-sewing operation. The needle is pointed at both ends, with two or more eyes at the middle, and has a groove in it to receive the thread and protect it from unnecessary wear. It is held by pairs of fingers or clamps, one pair on each side of the fabric, which are made to advance and recede alternately, and so pass the needle through the fabric. As the needle is passing through, it is received by the pair of fingers or clamps on the opposite side; and when it has carried the thread through the fabric, the thread is caught by reciprocating, vibrating, or rotating fingers (attached to the end of long arms), which draw it tight in a similar manner to the hand and arm of a seamstress when at work. The fabric or material is placed between a pair of jaws or clamps attached to a table, which is shifted longitudinally each time the thread passes through. In order to "stitch and backstitch," the table is alternately moved twice the length of a stitch forward and then half the same distance backward; but when "running" a thread, only the simple forward motion is given to the table.

[Printed, 2*s.* 0½*d.*]

A.D. 1853, September 10.—N° 2095.

GILBERT, THOMAS WILLIAM.—Improvements in sewing sails and other articles by making sewing machines to move step by step, according to the rapidity of the stitching, while the fabrics are held stationary; for which purpose the machine is supported on a frame of such dimensions as will allow of the extent of movement required, and is made to slide or move in such frame by a ratchet or other step-by-step movement, making a stitch or stitches each time of moving. In order to obtain increased facility for manufacturing sails and other articles where two or more rows of stitches are required, two or more sewing machines are combined and caused to move together. To flatten the stitches, rollers are applied to the sewing machine, and caused to act on and press the rows of stitches as the machine makes its return movement.

[Printed, 10½*d.*]

A.D. 1853, September 14.—N° 2131.

JOHNSON, JOHN HENRY (*a communication from Mesdames Adrienne Elisabeth Figuier and Euphrasie Chérault*). — Sewing machine containing a number of hooked needles fitted side by side in a sliding carrier, at distances apart corresponding with the length of stitch to be made. On the side of the material opposite to that at which the needles enter there is a series of catches, similar to bell cranks, turning loosely on a horizontal wire. When the needle carrier moves forward, it pushes the hooked ends of all the needles simultaneously through the material. A thread, supplied by a bobbin, is laid over these hooks, and passed also round the vertical arms of the catches (the horizontal arms of which may be slightly weighted). The needle carrier being then moved back again, the needles bring the thread along with them, thereby forming a series of loops on the opposite side of the material. Through this series of loops a second thread is passed; and then the loops are released and drawn tight, thus completing the stitching of a length of seam equal to the length of the series of needles by one double stroke of the needle holder.

[Printed, 2½*d.*]

A.D. 1853, September 21.—N° 2187.

NEWTON, ALFRED VINCENT, (*a communication*).—1. Producing a seam with one thread, as in the tambour stitch, by first forming a loop, by the aid of a looper or hook, with that portion of the thread which is carried through the cloth by the needle, and then forming another loop in like manner at the next perforation with the needle, and drawing this second loop through the first loop, which is then liberated to complete the stitch. This seam differs from the tambour stitch seam, as in the latter the loop must be drawn in the direction of the progress of the seam, so that the needle shall enter the loop to effect the interlooping, and if it fails to enter, or the loop fails to be formed, the series of loops is broken, and the thread back of the missed stitch is liberated; whereas, in the new stitch, the loop must be drawn away from the needle to prevent the needle from entering it, and the interlooping is produced by drawing the last-formed loop through the one previously formed, so that each stitch completes the concatenation, and, as a consequence, the failure at any time to catch the thread, when carried through the cloth by the needle, does not break the connexion, but simply causes a longer stitch to be taken.

2. Relates to the machine for sewing seams according to the new method, and consists in making the needle with a crook or bend in its length behind the eye, to form a space for the insertion of the looping instrument between the needle and the thread; combining this needle with a looping apparatus; forming the looping apparatus, which is suitably pointed to enter between the needle and thread, with a recess, into which the thread is drawn to form loops, &c., &c. The crooked needle may also be employed in combination with a shuttle or other means for carrying a second thread through the loops formed by the needle thread, or with some other method of linking together the stitches formed with one thread.

3. Forming seams for stitching and sewing with two threads, by carrying one thread through the cloth with an eye-pointed needle, and forming a loop with the other thread by a looping instrument, and then (instead of alternately looping one thread around the other) carrying the looper through between the needle and its thread, forming a second loop with the second thread, and carrying this last loop back through the loop in the needle thread, and through the first loop of the second thread, thus completely tying the second thread around the first.

4. Relates to machinery for sewing or stitching with seams made according to the third part of this invention, parts of which are applicable to machinery for sewing seams with one thread and other kinds of seams with two threads; and it consists in combining an eye-pointed needle, a looping apparatus, and a guide or

instrument for carrying the second thread within reach of the looping apparatus; also, in a mode of feeding the cloth or other material.

[Printed, 1*s.* 5½*d.*]

A.D. 1853, October 26.—N° 2473.

HUGHES, Edward Joseph, (*a communication*).—Improvements in the sewing machines described in the Specification of Letters Patent obtained by the present patentee, 10th August 1852, N° 14,256.

1. Method of using two straight needles moving diagonally in needle frames, so as to cross each other at every stitch.

2. Method of working with a straight needle moving vertically, and a hooked needle or guide acting upon the thread or threads horizontally, either using a long thread and a short thread or two short threads.

3. Employment of clamps or apparatus for holding leather or other strong material during the operation of sewing or closing.

4. Using two straight needles, one working vertically and the other horizontally.

[Printed, 9½*d.*]

A.D. 1853, November 14.—N° 2638.

ANDERSON, William, and MURPHY, Alexander Wark. —Relates to that class of ornamental fabrics known as "Ayrshire sewed work," used as collars, chemisettes, &c. In this work the muslin or ground fabric has hitherto been white or uncolored. Now, according to this invention, a black or colored muslin is employed as the ground fabric, and the sewed or hand-stitched embroidery laid upon its surface is either of black or colored material alone, or black and white, or any intermediate color combined. This combination produces a new mourning fabric.

[Printed, 2½*d.*[

A.D. 1853, November 24.—N° 2738.

TOWNSEND, Elmer, (*a communication from William Butterfield*).—Improvements in machinery for sewing a chain stitch with a hooked needle, which is made to pass through the cloth or material to be sewed, and to have the thread laid in its hook, so that in ascending it will draw the thread in a doubled or looped state through the cloth and through the previously-formed loop.

[Printed, 6½*d.*]

A.D. 1853, November 30.—N° 2790.

JENNINGS, Lewis.—Formation of a novel kind of tie stitch in the following manner, by means of a needle with an eye near its point, moving vertically, and a hook or finger working in a horizontal direction beneath the fabric:—The needle descends through the cloth to a given distance and then retires, leaving sufficient thread to produce what may be called loop No. 1; and to form this loop (which is a long one) the hook or finger catches and retains the thread. When the needle has risen clear of the cloth, the latter is moved forward a given distance, and the needle then descends to form the loop No. 2, which is a short one. As the needle ascends the finger moves horizontally, or in the line of the seam, and passes loop No. 1 through No. 2 (which is then tightened), and extends it beyond the spot where loop No. 3 is to be formed. The needle now descends again through the cloth, entering it at such a point (determined by the intermittent forward motion of the cloth) as to leave a loop (No. 3) within the loop No. 1. This loop No. 3, is formed by the hook or finger taking hold of the thread, as was the case with No. 1; and in like manner No. 3 is carried through No. 4, and interlocked with No. 5, which is itself interlocked with No. 7, and so on. Instead of making long and short loops alternately, and an interlocking at every other loop, each loop may be similarly interlocked.

The patentee also describes an improved arrangement of the parts of a sewing machine, designed to produce the stitches described, as well as the common crochet stitch, by means of a needle and looping hook or finger.

[Printed, 6½*d.*]

A.D. 1853, December 6.—N° 2837.

BERNARD, Julian.—Improvements in the general construction and arrangement of machines for stitching or uniting and ornamenting various materials,—the principal features of novelty being the use of a rotatory arm or bracket, working around a fixed centre on the bed plate, for carrying the needle and part of the mechanism which actuates it, whereby the arm and needle may be brought to different positions on the bed plate for effecting different varieties of stitching; the use of a revolving or sliding bed plate for the like purpose; the combination in one machine of various kinds of mechanism, parts whereof are specially arranged according to the particular form of stitch required, and work in conjunction with one needle slide or carrier; placing beneath the needle a plate of glass, with a hole formed in it for the passage of the needle and thread; making the table and other parts of stitching machines of glass, &c., &c.

Uniting materials by a stitch composed of three distinct threads or filaments, which for ornamental purposes may be of different colors. Two modes of uniting and actuating the threads are described. The first mode of uniting and actuating is as follows:—The first or top thread is passed through the eye of a suitable pointed needle, which descends through the material, carrying a portion of the thread in a doubled state with it. The needle is then slowly drawn up, and at the same time the end of a pointed and curved inclined instrument or loop opener (through the point whereof the end of another of the three filaments has been previously introduced) is caused to pass between the needle and a part of the thread, in a direction transverse to the line of stitching. As the inclined instrument advances, it carries with it the second thread in a doubled form or loop, which is enlarged by means of an instrument called a loop expander, when the inclined instrument is drawn back, so that a bobbin or reel carrying the third thread may be passed through the expander and expanded loop in a direction parallel to the line of stitching. The necessary degree of tension is now given to each thread, and the above movements are repeated. The second mode of stitching consists in passing the second and third threads, with their bobbins, entirely through the loop of the first thread in opposite directions, instead of using them in the manner already described for producing the first stitch.

Apparatus for sewing or attaching buttons or similar fastenings to garments or materials, by bringing the holes, or those parts of the button or other fastening through which the needle is to be passed, successively beneath or opposite the point of the needle, and carrying the thread in a doubled or looped form through the holes, and securing the same by looping, whether alone or in combination with one, two, or more threads.

Machine for weaving or stitching the edges of buttonholes and securing or ornamenting the edges of garments or materials by means of a double-pointed needle, with an eye near the centre, which has an up-and-down movement communicated to it, passing in its ascent through the material, but descending through the open space of the buttonhole or outside the edge of the material, the thread which the needle carries being brought over its point in the form of a loop at each ascending movement, by means of two fingers, so that the stitch made in this machine will be similar to the buttonhole stitch produced by hand.

[Printed, 2*s*. 4½*d*.]

A.D. 1853, December 27.—N° 2996.

HUGHES, EDWARD JOSEPH, (*a communication*).—1. Various modifications in the construction of sewing-machine needles with bearded or spring eyes, the principal object being to prevent the thread from slipping out of the eye of the needle, and also to prevent the beard from tearing or catching the fibre of the material sewed.

2. Machine for obtaining a cam motion from the rim of the fly wheel, and sewing with two vertical bearded or hooked needles and one thread, one needle drawing the thread upwards through the material or fabric, and the other drawing the thread downwards in such manner as to produce a stitch similar to that made by hand.

3. Another form of machine for making the above-mentioned stitch by the use of two vertical bearded or hooked needles with improved thread guides and feed motion.

4. Machine for producing a back stitch of various forms with one thread and a single bearded or hooked needle. The needle not only moves up and down, but a lateral motion is given to it at each ascent, so as to cause it to go down in the same place only at every alternate descent. A guide is employed for introducing the thread into the hook of the needle, and a hooked arm for catching the loop of the thread and drawing it entirely through the material on the under side. The cloth or material is shifted by an inter-

mittent feed motion, which alternately moves it in one direction the length of a stitch, and then a shorter distance in the opposite direction. It is stated that by this method of feeding, and the lateral motion of the needle, back stitching or sewing of every description may be accomplished.

5. An improved feed motion applicable to sewing machines generally.

6. Method of using two needles and two thread guides, or one needle and one thread guide. Each needle is formed with a long slot or eye near the point, through which a thread guide or hook passes, whenever the eye of the needle has advanced through the fabric, and draws the thread through the eye. When two needles are used, one needle is placed below and the other above the cloth. Each needle, when in action, moves between two springs (one pair placed below and the other pair above the cloth) which hold the thread whilst the thread guide is taking it through the eye of the needle. The operation of sewing is as follows:—The lower needle rises between its springs and through the cloth until its eye is above the latter, the upper thread guide then catches the thread, which is held by the upper pair of springs, and draws it through the eye of the needle; this being accomplished, the needle passes back out of the cloth and from between the lower springs, carrying with it the thread, which is caught and held by the lower springs; the upper needle now descends between the upper springs and through the cloth, and the thread is drawn through its eye by the lower thread guide; after which the needle ascends, and, drawing the thread through the cloth, completes the stitch. A needle of the above kind, with its thread guide, may be substituted for the hooked needle and hook or thread guide described under the fourth head of this invention, producing a stitch similar to that made by hand.

[Printed, 1*s*. 3½*d*.]

A.D. 1853, December 31.—N° 3039.

BERNARD, JULIAN.—Relates partly to improvements on the invention protected by Letters Patent dated December 6, 1853, N° 2837.

The first improvement refers to a method of stitching described under the second head of the former Specification, and consists in novel mode of enlarging the loop of the second thread or filament as to admit the third thread through it.

Producing a peculiar kind of stitch, somewhat similar to that nown by the name of "herringbone" (to be used for uniting materials and securing their edges, or for ornamenting the same, and termed the "diamond stitch"), by imparting to the cloth or material an alternate lateral movement in conjunction with a forward movement; which compound motion will have the effect of presenting the material underneath the needle in such a manner as to produce the peculiar kind of stitch referred to.

Another form of stitch for securing or ornamenting button, lace, or other holes, or the edges of various materials, or securing or uniting materials at their edges by means of one or more threads or filaments; the thread being brought in a doubled or looped form from one side of the material to the other, so as to overlap the edge, and the needle descending through the loop which is thus turned over. This loop, when two threads are employed, is not obtained from the needle thread, but from a second thread, which is passed through the loop formed in the needle thread under the material or fabric, and then drawn over the edge of the material; and on the needle again descending, it passes through the loop so turned over, and through the material, forming a loop under the same, through which another loop of the second thread is passed.

Improved form of stitch for uniting or ornamenting materials similar to the ordinary crochet, chain, or tambour stitch, but not having the same tendency to unravel. This stitch is produced by the use of one or more thread or threads in conjunction with a straight needle and a revolving hooked instrument, the latter taking the loop from the needle, and giving one or more turns or twists to the loop before the needle is reinserted.

Doubling and holding materials for the purpose of hemming or sewing the edges thereof.

Placing or securing on one common bed-plate two or more sets of mechanism, each having independent needle mechanism for sewing or stitching.

[Printed, 9½*d.*]

1854.

A.D. 1854, January 3.—N° 17.

BERNARD, Julian.—Modes of securing the uppers or fronts to the soles or bottoms of boots and shoes,—the parts being either stitched or cemented: when stitching is adopted, it is preferred to perform the operation by a sewing machine.

Method of binding or securing the edges of boots and shoes, which is also applicable to binding and securing the edges of garments.

Improvements in cutting out the various parts and materials of which boots and shoes and garments are composed.

[Printed, 11*d.*]

A.D. 1854, January 10.—N° 57.

TOWNSEND, Elmer, (*a communication from William Butterfield and Edgar Mantleburt Stevens*).—Relates to machinery for producing a chain stitch. Instead of the needle being made with a hook like those which draw the thread through the cloth, leather, or other material, it is formed with a notch or recess in its side (which may be termed a reversed hook) to receive the thread from a thread carrier, and force it down through the material in the form of a loop, and, on ascending again, to discharge such loop. This needle works in conjunction with a hook affixed on the end of a revolving shaft, beneath the table on which the material rests. The hook rotates in a plane passing longitudinally through or parallel to the axis of the needle, so as to seize or pass into the loop perpendicularly or thereabouts to the plane of such loop; and as it draws the loop forward, no twisting of the loop is necessary in order to present it to the needle, so that the latter may pass through it on again descending.

The apparatus for holding the material is constructed in such manner as to admit of the material being moved laterally or transversely during its longitudinal movements under the needle.

[Printed, 1*s.* 4*d.*]

A.D. 1854, January 18.—N° 119.

GREENSHIELDS, Walter.—Improvements in chenille fabrics. This invention relates to the manufacture of ornamented fringes for various purposes. The fringes are woven or manufactured in the ordinary manner, with the exception that yarns of various colors are woven or worked into them, according to the usual system of manufacturing figured or partycolored fabrics in the loom.

This system of producing figured fringes is applicable where figured or partycolored chenille is worked up by a sewing process.

[Printed, 3*d.*]

A.D. 1854, January 19.—N° 134.

HUNT, Nehemiah, (*a communication from Christopher Hodgkins*).—Relates to machinery for performing the operation of sewing by the united action of a needle and shuttle. Consists in an arrangement of mechanism for causing the shuttle driver to have a backward movement for a short distance and an interval of rest immediately after each forward movement; the object being to open the space between the heel of the shuttle and the end of the shuttle recess of the driver, so as to facilitate the passage of the loop off the heel of the shuttle.

Also, an improved mode of constructing and operating the brake or clamp contrivance by which the feeding wheel is actuated.

[Printed, 10*d.*]

A.D. 1854, January 21.—N° 155.

EDWARDS, Charles John.—Manufacturing flat bands for driving machinery, by folding or doubling bands of leather, so as to bring the edges together at the centre or other convenient part of the side of the band, and then securing them thereto by cementing, stitching, and riveting.

Making round bands, by turning up a strip or strips of leather to form a tube, in which a cord, rope, or round band, prepared with an elastic cement, is placed; then cementing the edges and interior surface of the leather together; and, when the band is finished, giving a slight twist to it, so as to make the joint extend helically around the band.

[Printed, 6*d.*]

A.D. 1854, January 23.—N° 158.

DARLING, WILLIAM, (*a communication*).—Improvements in the general combination and arrangement of sewing machinery in which a circular shuttle, suitably formed to receive a circular metallic bobbin, is employed, in conjunction with a curved needle carried by a vibrating bar.

[Printed, 3*d*.]

A.D. 1854, January 31.—N° 241.

MEEUS, PIERRE JOSEPH.—Gilding and coating with metals, by means of heat and pressure, articles composed of or coated with gums, gutta percha, caoutchouc, or mixtures or combinations of the same or substances analogous thereto.

Applying the invention to the imitation of embroidery and embossed or figured goods of all descriptions on yielding fabrics and bodies, and the production of ribbons, trimmings, braid, gold or silver lace, fringes, and articles of the like description in gold, silver, platinum, or other metals, either plain or colored, tinted, or shaded, so as to resemble mother-of-pearl, or otherwise.

[Printed, 4*d*.]

A.D. 1854, February 3.—N° 274.

HOWARD, EDWARD, and DAVIS, DAVID PORTER, (*a communication from Sylvester H. Roper*).—Improvements in sewing machinery, calculated to produce back-stitch sewing, or the ordinary running stitch, by means of two straight needles, which pass through the fabric in opposite directions alternately, and are supplied with short pieces of thread.

1. The use of a groove, tube, or thread passage, in combination with a hooked needle made to draw the thread into such passage, the object being to keep the thread from springing back and becoming entangled.

2. Improved manner of applying the closing slide to a hooked needle; that is, by making the shank of the needle tubular, and causing the closing slide to work therein.

3. Combining with each of the hooked needles of the machine (there being two such needles) two thread-benders, or contrivances for bending the thread in two directions, and across the needle and into the opening hook of the needle.

4. Combining a set of lips or nippers with the thread-benders to seize the thread during the formation of each stitch, and draw the stitch closely into the cloth.

5. Combining a stationary knife with the cloth presser and feeding apparatus to separate the piece of thread used in sewing from a roll of thread wound on a spool.

6. Mode of connecting two of the connecting rods of the machine with a crank pin, viz., by projections from said rod and a covering tube or ferrule made to encompass them and the crank pin.

[Printed, 1*s*. 5*d*.]

A.D. 1854, February 3.—Nº 275.

MEEUS, Pierre Joseph.—Manufacturing threads of gutta percha, and ornamenting the same. Employing such threads in the manufacture of stuffs and fabrics, for the purpose of rendering them waterproof and of producing therein stripes and patterns of all kinds. Also using the gutta percha threads in embroidering by hand in net, lace, and other descriptions of fancy work, and in the production of patterns on fabrics in the jacquard loom, and for making outlines in embroidery, &c.

[Printed, 3*d*.]

A.D. 1854, March 1.—Nº 499.

GOTTUNG, John Baptiste, (*a communication*).—Taking the feathers of the peacock and other birds, splitting the stems thereof into strips about $\frac{1}{16}$ of an inch broad, paring away the pithy portion, and working or stitching the strips by needles or machinery through leather, so as to produce embroidered work suitable for harness, table mats, shoes, slippers, &c.

[Printed, 3*d*.]

A.D. 1854, March 13.—Nº 607.

JOHNSON, John Henry, (*a communication from Mesdames Adrienne Elisabeth Figuier and Euphrasie Chérault*). — Sewing machine containing a number of hooked needles fitted side by side in a sliding carrier, at distances apart corresponding with the length of stitch to be made. On the side of the material opposite to that at which the needles enter there is a series of catches, similar to bell cranks, turning loosely on a horizontal wire. When the needle carrier moves forward, it pushes the hooked ends of all the needles simultaneously through the material. A thread, supplied by a bobbin, is laid over these hooks, and passed also round the vertical arms of the catches (the horizontal arms of which may be slightly weighted). The needle carrier being then moved back again, the needles bring the thread along with them, thereby forming a series of loops on the opposite side of the material. Through this series of loops a second thread is passed; and then the loops are released and drawn tight, thus completing the stitching of a length of seam equal to the length of the series of needles by one double stroke of the needle holder.

[Printed, 3*d.*]

A.D. 1854, March 20.—N° 664.

BROOMAN, RICHARD ARCHIBALD, (*a communication*). — Improvements in sewing machines.

1. So constructing and applying the friction brake upon the thread that, in rapid work on harsh materials, the breaking of the thread at the period of greatest strain is obviated.

2. Improving the form of the needle, whereby, in sewing leather and similar materials, the hole is so made that the process of finishing the stitch is greatly facilitated. This is effected by enlarging that portion of the needle which, having entered the material, is to retire from it before the pull upon the last loop is commenced.

3. So forming the bed or plate on which the work rests that, in turning the work, in order to sew in a curve, the stitch may be as perfectly formed as when sewing in a right line.

[Printed, 3*d.*]

A.D. 1854, March 30.—N° 729.

TOWNSEND, ELMER, (*a communication from Alfred Swingle*).— Machine for performing the operation of sewing with two threads. One thread is passed through an eye near the point of an upright needle, which carries it upwards through the cloth, so as to form a loop in the same manner as in machines in which a needle and shuttle are used. The other or binding thread is employed in short lengths, and is combined with the first thread by the use of a vibrating hook and a vertical forked thread carrier, to which an intermittent rotary motion is communicated, When the loop has been formed by the ascent of the needle, the hook passes through, and, seizing the binding thread (which extends upwards from the cloth, and is held between the rearmost leg of the thread carrier, and a spring attached thereto), draws it through the loop, and through the space between the foremost leg of the carrier and its spring. When the thread is drawn through the carrier, it is left supported by the said leg and its spring, and while thus supported, and during part of the descent of the needle, a semi-rotative movement of the thread carrier takes place, so as again to present the thread in a proper position to be seized by the hook when it advances through the loop formed by the next ascent of the needle. By the intermittent rotary motion of the forked thread carrier the upper thread is wound around the lower thread during the operation of sewing, and in this respect the sewing differs from that produced by other machines.

[*Printed*, 10*d*.]

A.D. 1854, April 1.—N° 750.

NEWTON, Alfred Vincent, (*a communication*).— Improvements in sewing machinery.

1. Keeping the shuttle in contact with the face of the shuttle race by means of magnetism or magnetic attraction, without the use of springs or other device.

2. Employing a curved hinged cap for confining the cop of the shuttle; which cop is inserted without a spindle or spooler. This arrangement admits of the thread being drawn from the inside of the cop; and thus a uniform draught on the cop thread, as it is drawn or paid out from the shuttle, may be obtained.

3. Forming, in the face of the shuttle, a slot, through which a stud in the shuttle-race may project, for the purpose of drawing the thread from the shuttle bobbin, so that there may be a uniform tension on the shuttle thread when drawing up the stitch.

4. Mode of regulating the tension of the needle thread as it passes from the spool to the needle.

5. Use of an arrangement of double-acting pawles and ratchet wheel for feeding forward the cloth when the needle is approaching the cloth.

6. Construction and use of a nipper spring, jointed to the guide of the needle bar; which nipper spring seizes the needle thread when it is slack, and carries it sidewise or horizontally away from

the needle, whereby the thread is protected from being broken or cut by the needle.

[Printed, 1*s.* 7*d.*]

A.D. 1854, April 6.—N° 794.

BELLFORD, Auguste Edouard Loradoux, (*a communication from Messrs. Grover and Baker*).—Improvements in sewing machines, chiefly applicable to the machinery which formed the subject of Letters Patent N° 14,328.

1. Arrangement of machinery for making the longitudinal seams on cylindrical or conical bag or hose-like articles, such as the legs of boots, trousers, &c.

2. Modifying the machine to form transversal seams on cylindrical articles.

3. Guide for binding the fabric or material.

4. Method of working a shuttle or thread carrier.

5. Regulating the tension to be given to the threads.

6. Feeding and holding fabrics during the operation of sewing.

7. Tubular thread carrier or tubular shuttle.

8. Single thread stitch, formed by passing a loop of the thread through the material, holding it till the needle has formed a second loop, putting the first through the second loop, and carrying a third loop through the first. Then the third loop is put through a fourth, and a fifth loop is conducted through the third, and so on.

9. Using lubricating matter for protecting the threads from breakage whilst sewing, and for preserving and improving the seam.

10. Feeding and holding the fabric.

11. Mode of mounting the bobbin to regulate the delivery of the thread.

12. Apparatus for cording and binding articles.

13, 14. Modes of feeding fabrics.

15. Giving a periodical lateral motion to the surface by which the material is fed, in order to form different kinds of stitches.

16. Moving and directing heavy or unwieldy pieces of material by means of an endless chain carrying the said material.

17. Making lap or flat seams by means of a clamp consisting of two pieces or jaws, between which the two pieces of material are

secured,—the jaws of the clamp having a slot for the passage of the needle.

18. Directing or guiding materials, such as leather, by retaining a point or points in a furrow made in the material along the line on which it is intended to be sewed, or by causing the fabric to rest against one or more points whilst advancing.

[Printed, 10d.]

A.D. 1854, April 6.—N° 800.

BERNARD, Julian.—Production of a novel kind of stitch composed of one thread, which is so tied or knotted in the material by suitable instruments, as to entirely prevent it from unravelling should the thread break at any part of the seam. A knot or tie may be formed upon each loop, or every alternate loop may be knotted, or one loop may be passed through one or several other loops.

Application of a break or other suitable mechanical contrivance to sewing machines, to prevent such machines being reversed or turned the wrong way.

Use of a spring arm for taking up the slack of the machine for making buttonholes, described in the Specification of Letters Patent, dated December 6, 1853, N° 2837.

Uniting and ornamenting materials by a three-thread stitch, produced by interlooping the three threads together, so as to form an ornamental braiding on one side of the material.

[Printed, 1s. 4d.]

A.D. 1854, April 15.—N° 879.

TIRET, Georges Louis Félix.—Production of a figured canvas for the purpose of embroidery,—the object being to dispense with the figured pattern paper heretofore used for reading off the design, and to devise an easier and quicker method of producing the pattern desired to be embroidered.

[Printed, 9d.]

A.D. 1854, April 18.—N° 890.

BERNARD, Julian.—Mode of paring, rounding, or finishing the heels and soles of boots and shoes by machinery instead of hand labour.

Placing rims or borders around the dies employed for shaping the soles of boots and shoes.

Mode of stitching the soles to the uppers of boots and shoes, and stitching various other parts of boots and shoes, by means of two needles, working from the outside or on one side of the boot or shoe. Each needle carries a thread, passed through an eye near its point; and, in sewing, each thread is secured alternately by a loop of the other. The two needles are caused to work in such manner that their points will pass each other and enter between each needle and its respective thread alternately; so that when one needle is inserted in the material, before it is withdrawn the other needle is caused to descend and insert its point, with part of its thread in the form of a loop, between the first needle and a portion of its thread, also in the form of a loop; the first needle is now withdrawn, leaving a loop of its thread around the second needle, and is again inserted, passing in its descent between the second needle and part of its thread, the loop of the first thread being still around the second needle, which at this part of the operation is withdrawn; and these movements are repeated until the part is stitched. This mode of stitching is applicable to other articles.

Improvements in lasts, and machinery for lasting or mounting the uppers on the last and inner soles of boots and shoes.

[Printed, 1*s*. 1*d*.]

A.D. 1854, April 18.—N° 891.

BERNARD, JULIAN.—Stitching any suitable material with two threads in the manner explained in the preceding description of N° 890, as relating to boots and shoes.

Mode of tightening the stitch.

Arrangements for actuating the straight or curved needles of stitching machines, and inserting such needles into and through the material.

" Placing the glass which covers and presses upon the material " directly where the needle acts in the end of a tube or circular " part; which tube moves upon the lower part of the arm of the " machine and forms its socket, upon which it slides up or down, " as required."

Combining stitching machines with ornamental tables or other articles of furniture in such manner as to conceal such machines when not required for use.

Placing in such tables or articles of furniture self-acting mechanism, in conjunction with stitching machines, for the purpose of imparting motion to the same.

[Printed, 1*s*. 1*d*.]

A.D. 1854, May 6.—N° 1024.

BERNARD, Julian.—Mode of feeding the material to be stitched or ornamented, so as to present it to the needle or needles at the proper time and place.

Method of securing the needle in the rod or slide which carries it.

Making the bed plate or table and other parts of sewing machines of marble, china, porcelain, stone, earthenware, or stone ware.

Causing the same machine or parts of the same machine to perform different operations, or to act at different parts of a common bed plate, by making the vertical needle with its rod or holder, and some of the parts immediately connected therewith, capable of moving or travelling in a lateral direction.

Employing two endless bands (travelling side by side at a short distance apart) for giving motion to the material to be operated upon,—the needle working in the space between the two bands.

[Printed, 6*d*.]

A.D. 1854, May 23.—N° 1152.

LAWSON, John.—Manufacturing cut-piled fabrics by attaching successive rows of suitable lengths of yarn to a woven fabric by the aid of a sewing machine, so as to obtain a pile on the surface of such woven fabric.

[Printed, 3*d*.]

A.D. 1854, June 9.—N° 1279.

BERNARD, Julian.—Mode of passing one thread over another in the form of a loop, by enlarging the loop sufficiently to pass over a reel, bobbin, or holder, containing another thread, and held between two fingers or levers, which are made to release their hold of the bobbin alternately by means of a cam.

Improvements on the machine for making or securing the edges of buttonholes, described in the Specification of Letters Patent, dated December 6, 1853, N° 2837, consisting in an arrangement for carrying the thread over the edge of the material without passing behind the needle, so that, instead of forming the "button-hole stitch," it will merely pass through and overlap the edge of the material, producing what is generally called the "over-cast stitch." Also in arrangements for taking up the slack of the thread; ensuring a perfect stitch; discontinuing the travelling action of the material at pleasure; and causing the needle and parts connected with it to travel while the material remains stationary.

[Printed, 10*d.*]

A.D. 1854, June 17.—N° 1324.

HOLLOWAY, GEORGE.—1. Means of holding the thread of sewing and embroidering machines in tension, so that whatever the quantity of thread on the bobbin or bobbins, the same amount of tension will be preserved, without putting any injurious drag upon the thread.

2. Improvements in some of the details of the machines known as the Lancaster sewing machines, for the purpose of facilitating the adjustment of the circular needle, and otherwise ensuring the better working of such machines.

[Printed, 10*d.*]

A.D. 1854, June 20.—N° 1351.

CHITTENDEN, GEORGE R., (*a communication*).—Application to sewing machines of apparatus for folding bindings for the edges of hats and other articles, and for holding such bindings correctly during the operation of sewing; likewise for folding the edges or selvages of fabrics for the purpose of hemming the same, and, when desired, introducing cords into the hems or folded edges; and also for holding and regulating the letting off of the thread used.

[Printed, 1*s.* 4*d.*]

A.D. 1854, June 30.—N° 1431.

HUGHES, EDWARD JOSEPH, (*a communication*).—1. Machine for sewing by means of a straight hooked needle, alternately descending and ascending through the cloth and working in combination with a circular case, containing the spool of thread, and furnished with a hook on its periphery,—such case turning once round for every stitch made. The needle, descending through the cloth, receives the thread in its hook and draws it up through the cloth in the form of a loop; the fabric is then shifted the length of a stitch, and the needle again descends, carrying with it the loop, which, on being released by the needle, is caught by the hook of the needle case and carried round therewith; after this, a fresh portion of the thread is placed in the hook of the needle, which then carries it up through the cloth in the form of a loop, and at the same time draws the previous stitch close and firm.

2. Similar arrangement of parts (with certain additions) for producing a stitch resembling that above described, except that each loop has a twist in it on the surface of the fabric; and by this form of stitch the thread is not only tied or fastened in the material, but is also tied in itself, so that if the fabric were removed from the thread each stitch would form a knot.

3. Producing another form of stitch by a like arrangement of parts. The needle descends through the cloth to receive the thread, which it carries upwards in the form of a loop; the cloth being shifted the extent of a stitch, the needle again descends with the loop, which is taken therefrom by the hook of the bobbin case and carried partly round such case, whilst the needle, without the thread, rises out of the cloth, which is moved along sufficiently far for another stitch; the loop is then carried round the bobbin case, and the needle descends to receive the thread, which it carries upwards through the cloth in the form of a loop; and the cloth being moved onward the length of a stitch, the needle descends as before with the loop. This stitch may be varied and adapted to different kinds of work by giving a lateral motion to the needle.

4. Using two needles (having an eye near the point), two threads, and two hooks or catches, so as to form a stitch by the needles passing each thread from the opposite sides of the fabric or material in diagonal directions, each needle thus passing its thread through a loop formed by the other.

5. Method of sewing cloth or other material with one thread, two needles with long eyes or spring eyes, and two thread guides to carry threads through the eyes of the needles, producing a back stitch.

6. Machine for sewing with one thread and spring-eyed needle, and a hook and thread guide to carry the thread through the eye of the needle, producing a back stitch similar to hand sewing.

7. Modification of the preceding machine, in order to sew or work buttonholes by giving a lateral movement to the needle.

8. Sewing two parallel seams at the same time by one machine, by causing two needles to pass the thread or threads for each seam through the material simultaneously, and securing the loops and guiding the threads in such manner that the movements necessary for forming one seam may be made available for producing two seams at the same time. The needles by which the threads are passed or drawn through the material are hooked, and work in combination with two pointed needles or awls, provided for the purpose of piercing leather or other strong material at the points where the hooked needles are to pass through the same.

9. Method of taking up the slack of the thread.

[Printed, 1*s*. 10*d*.]

A.D. 1854, July 3.—N° 1451.

GREENSHIELDS, Walter.—Relates to the manufacture or working up of partycolored chenille into fringes or trimming details, in such manner that the fringes will present symmetrical colored patterns or regular ornamental designs or devices upon their faces. The improved fringe, which is designated the "orné chenille fringe," is produced by using partycolored chenille either as warp or weft;—the process of weaving being conducted according to the usual system of manufacturing figured or partycolored fabrics in the loom.

This system of producing figured fringes is applicable where figured or partycolored chenille is worked up by a sewing process.

[Printed, 3*d*.]

A.D. 1854, July 6.—N° 1482.

AVERY, Otis.—Making a tambour, locked, embroidery, or chain stitch in cloth or leather, with a single thread, by the action of two needles, one of which has an eye near the point, and the other is a "split or loop-holding needle." The split needle works on the under side of the fabric to be sewed, moving in the same vertical plane, but at an obtuse angle to the upper or eye-pointed needle. The eye-pointed needle carries the thread through the fabric or material, then the split needle passes between the eye-pointed needle and its thread to or through the fabric, and holds the loop close to the cloth until the eye-pointed needle has been withdrawn and again passed through the cloth and through the loop held by the split needle, when the latter is in its turn withdrawn.

Several varieties of the split needle are described.

[Printed, 5*d*.]

A.D. 1854, September 11.—N° 1980.

SZONTAGH, SAMUEL.—Relates to sewing machines in which a shuttle is employed in combination with a needle for performing the operation of sewing.

1. Making the needle used for sewing leather with a flat and broad point, and placing the said needle in such position that the broad and flat part thereof makes an angle of about 45° with the line of the thread which passes through the eye, for the purpose of preventing the holes formed by the needle from cutting the thread of the stitch last made.

2. Applying a magnet to the shuttle-box of sewing machines for keeping the shuttle in close contact with that part of the shuttle box against which it slides, and thus ensuring more perfect contact than by the use of springs, as commonly practised.

[Printed, 6*d*.]

A.D. 1854, September 20.—N° 2035.

BELLFORD, AUGUSTE EDOUARD LORADOUX, (*a communication*).—Relates to that kind of sewing machine which forms the stitch by the interlacing of two threads, one being passed through the cloth by a needle, and left protruding in the form of a loop, and the other thread being carried through such loop by a shuttle or its equivalent.

1. Giving the cloth or the needle a movement laterally to the direction of the line of sewing between the successive interlacings of the needle and shuttle threads, for the purpose of producing the buttonhole, whip, and herringbone, or such other kinds of stitches as may be produced by such movements.

2. Employing a curved needle, or its equivalent, to enter every loop that is formed at the edge of the buttonhole, and retain the same during the next interlacing of the threads in the cloth, and until the sewing needle enters it in its next movement past the

said edge, in order that every loop formed at the edge may be clasped by its predecessor.

3. Arranging the feed mechanism to give the cloth one movement in the direction of the line of sewing for every two operations of the needle and shuttle in working the buttonhole stitch, for the purpose of laying the visible parts of the threads parallel to each other, and avoiding the zigzag appearance that would be produced by feeding after every single operation.

4. Causing the instantaneous stoppage of the feed or movement of the cloth in the direction of the line of sewing when the needle thread breaks or the loop is otherwise prevented from being formed or drawn tight.

5. Drawing the shuttle and needle threads in opposition to each other in tightening the stitch, so that the interlacing of the threads may take place as nearly as possible in the centre of the cloth, and the shuttle thread may be prevented from drawing through to the upper surface of the cloth, as is frequently the case when that thread is only subjected to a uniform tension throughout the whole operation, while the needle thread receives an extra degree of tension at the proper time for tightening.

6. Mode of arranging the mechanism by which the shuttle is driven, whereby great facility is afforded for adjusting it longitudinally, so that, without receiving a motion of greater length than is necessary to carry it through the loop, its movements may commence and terminate at such points that it cannot fail to enter and pass properly through the loop.

[Printed, 10*d.*]

A.D. 1854, September 29.—N° 2094.

SNEATH, Walter.—Employment in a sewing machine of a single needle carrying a single thread in an eye near its point; the needle carries the thread through the fabric or material, and, on receding, forms a loop, which is caught by a hook; the fabric being moved the length of a stitch, the needle again descends, carrying a second loop through the first; then the hook releases the first loop, and, catching the second loop, holds it until the fabric is again moved, and the needle returns.

[Printed, 1*s.*]

A.D. 1854, October 19.—N° 2236.

MASON, Samuel, and BEEBY, William.—"Certain improvements in the manufacture of coverings for the human leg and foot."

1. Production of a blocked "upper leather."

2. Securing the "upper" to the "insole" of boots, shoes, and goloshes by double sewing, or, in some cases, by the use of screws, rivets, pegs, or cement, in addition to the ordinary sewing.

3. Obtaining an elastic waist to the common "outsole" of boots and shoes without any joining.

4. Inserting an elastic gusset in the tongue or instep-piece of shoes or boots called the Grecian or Albert cut.

5. Attaching trousers or body covering to shoes or boots in such manner that they form one article of dress.

6. Blocking out of one piece of leather or cloth a seamless leg and instep-piece to be made into gaiters or riding leggings.

[Printed, 10*d.*]

A.D. 1854, October 21.—N° 2244.

BERNARD, Julian.—1. Balancing, or nearly so, the arm, slide, or lever which actuates the needle or needles of stitching machines, whether such arms actuate the needle or needles directly or otherwise.

2. Imparting a lateral motion to arms for actuating the needles of stitching machines.

3. Attaching or connecting one or both of the jaw pressers or arms for feeding or travelling the material to the arm which actuates the needle or needles.

4. Mode of imparting motion to the jaw or feeder.

5. Use of a slotted lever, cam, or slide in connexion with a pin and roller attached to the arm that carries the needle.

6. Moving or travelling stitching machines upwards or laterally in the case, stand, or table which may contain them.

7. Fly wheel for stitching machines, so constructed as to enable the operator to work the machine either by hand or power at discretion.

8. Roughening or making a number of circumferential grooves in the bed plate of the machine, or that part on which the material is pressed. Also, indenting circumferential grooves in the jaws of the pressers or travellers.

[Printed, 6*d*.]

A.D. 1854, December 13.—N° 2618.

BELLFORD, Auguste Edouard Loradoux, (*a communication*).—Sewing machinery in which two threads are employed to form the stitch, one thread being carried through the cloth and left protruding in the form of a loop to receive the other thread. The stitch formed is that known as the "interlocked stitch," and is the same as that produced in sewing machines by the operations of a needle and shuttle. This invention consists chiefly in substituting for the shuttle a thread case to carry the locking thread, such case being so arranged relatively to the line of motion of the needle that, instead of requiring, like the shuttle, a movement of its own to carry the locking thread through the loop in the needle thread, the loop is drawn over it by the withdrawal of the needle, by which means the sewing machinery is much simplified.

The invention further consists in certain arrangements and modes of operating the several parts of the machine for the purpose of obtaining the above result.

[Printed, 9*d*.]

1855.

A.D. 1855, January 11.—N° 75.

TOWNSEND, Elmer, (*a communication from Alfred Swingle*). —Relates to that class of machinery for sewing cloth, leather, or other material in which a hooked needle ascends through a hole in the material produced by an awl or punch, and catching the thread presented to it by a guide or carrier, draws such thread in the form of a loop through the material and through the previously-formed loop, which is thus released from the stem of the needle,—each successive loop remaining on the stem until it is released by the needle descending in order to draw the loop through it. Consists in certain arrangements of parts for feeding the material and holding the same during the operation of sewing; for communicating up-and-down, reciprocating, semi-rotary, and rotary movements to the needle; and for producing a proper and uniform tension of the thread when a waxed thread is employed.

[Printed, 1*s*. 5*d*.]

A.D. 1855, February 21.—N° 376.

KIDD, Joshua.—Constructing sewing machines in such manner as to render the same capable of producing the "chain stitch," and the "double or cross chain stitch," by simply changing the needle or thread-carrier. The principal operating parts consist of a straight needle (formed with an eye to receive a thread), descending at regular intervals through the fabric or material, and working in combination with a needle or thread-carrier and appendages, placed beneath the bed or table of the machine, and moving in a horizontal direction. In making the cross chain stitch, the thread passed by the upper needle through the fabric is interlooped with a thread carried by the lower needle; but when a single chain stitch is required, the second thread is dispensed with, and the lower needle simply takes the loop formed by the descent of the upper needle, and places it in such a position that the upper needle, in its next descent, will carry a new loop through it. The lower needle and appendages are constructed and arranged in various ways.

The invention also includes certain methods of feeding the fabric and thread, and regulating the stitch.

[Printed, 1*s*. 4*d*.]

A.D. 1855, February 28.—N° 447.

RITCHIE, George.—"This invention consists of producing "double fabrics, either by the act of weaving, as is well under-"stood, or by sewing two fabrics together at intervals, in such "manner that each double fabric may consist of numerous narrow "parallel or oblong hollow compartments, which, being filled with "ground or pulverized cork, are to be made up into linings for "articles of dress; by which means of manufacture peculiar and "very useful linings for articles of dress are obtained."

[Printed, 3*d*.]

A.D. 1855, March 5.—N° 491.

FOWLE, Charles Lowell, (*a communication from Edwin A. Forbush*).—" New and useful improvements in machinery for " sewing cloth, leather, or other material."

The Specification is not printed, as the sealing of the Letters Patent was opposed, and the matter has not yet been brought before the Lord Chancellor for decision.

A.D. 1855, March 10.—N° 544.

HEAVEN, Charles.—Relates to machinery used for embroidering fabrics, and consists in the application thereto of a series of bent blades or instruments with inclined edges (one to each needle), which are actuated in such manner that, in place of the needles going simply through and through the fabric to be embroidered, each thread is formed into a loop, through which the needle passes, so as to form, when the thread is tightened, a stitch similar to the button or loop-hole stitch.

[Printed, 10*d.*]

A.D. 1855, March 31.—N° 719.

SURGEY, John Bailey.—Constructing instruments for threading needles, with a divided guide or funnel for the passage of the thread; which divided guide or funnel is capable of being closed during the operation of threading the needle, and readily opened to allow of the escape of the thread.

[Printed, 7*d.*]

A.D. 1855, May 8.—N° 1026.

FOXWELL, Daniel.—Relates to that class of sewing machines in which a straight needle works vertically in combination with a circular needle moving horizontally.

Consists in giving the requisite tension to the threads by conducting the same through or between perforated plates or rods.

Overcoming the back-lash of the crank which works the vertical needle by the use of a spring.

Fixing the vertical needle to the head of a pin or spindle working in a socket furnished with a set screw, so that the needle may be adjusted with great nicety.

Using a lever, acted upon by a cam and a spring, to press against the vertical needle and cause the loop to form on the proper side, so that the circular needle may enter it with greater certainty.

Preventing any back-lash of the circular needle, by causing a strong spring to act on the cranked segment which works it.

Applying an additional spring to the feeding apparatus on the pulling side.

Causing the end of the main shaft to work against a pointed centre screw.

Using two pointed centres for the spindle of the cranked segment, capable of being adjusted by a screw.

[Printed, 8*d*.]

A.D. 1855, May 10.—N° 1051.

FORBUSH, Edwin A.—Arrangement of mechanism for sewing leather, cloth, &c. The work is held by a pair of clamps mounted on a carriage, which traverses across the machine upon a pair of rails. On each side of such rails, and at right angles thereto, there is another pair of rails, between or upon which a compound carriage travels. Each carriage is provided with an awl for piercing the leather or cloth, and a needle (of the ordinary form) for passing the thread through the pierced holes; and the carriages are so constructed, that when they have advanced sufficiently near the work to introduce the needles into the holes last pierced, the upper portions or needle carriages stop, but the lower or awl carriages still advance to pierce the work. While this is taking place, the clamp arrangements employed to hold the needles release their grip upon their respective needles, which are driven through the work by suitable "propellers;" the needle clamps then severally take hold of the protruded points of the needles, so that when the carriages retreat they will have effected an exchange of needles; and on the next advance of the carriages the needle clamps are caused to move in such manner as to turn the needles end for end, in order to present their points to the work. After the needles have been drawn a short distance through the leather or cloth, the threads which they have respectively brought through are seized by nippers or pincers, which stand out from the front of the carriages, and by this means the threads are drawn tight into the leather or cloth. At each side of the work there is a pair of sliding spring nippers for taking up the slack of the thread and preventing it becoming entangled during the advance of the carriages.

The above arrangement of mechanism, although intended to pass two threads through each stitch-hole in opposite directions at the same time, may be used to sew with but one thread.

[Printed, 1*s.* 11*d.*]

A.D. 1855, May 28.—N° 1217.

BELLFORD, AUGUSTE EDOUARD LORADOUX (*a communication*).—Improvements in sewing machines, consisting, first, in a peculiar kind of looper, working in combination with a needle to form a stitch with a single thread; secondly, in a method of operating the needle in connexion with the looper, to throw the thread over its point; thirdly, in mechanical means for carrying out the second improvement; and, fourthly, in a feed motion for moving the cloth in the line of the seam.

The needle has an eye near its point to receive the thread, which it carries downwards through the cloth to form a loop on the under side near the point of the looper;—such looper consisting of a piece of metal, which is straight, except at one end, where it is slightly curved and pointed; and it is placed parallel to the line of motion of the needle, and below the table or bed of the machine, with the point downwards. Immediately that the needle commences to rise and leave the thread slack, it also begins to turn on its axis towards the point of the looper, and as it continues to ascend, it draws the thread in the form of a loop over the looper, which, without detaining the loop, merely keeps it open and in position for the needle to pass through in its next descent. When the needle again descends, the loop is drawn over and off the looper by the consequent tension of the thread.

[Printed, 3*d.*]

A.D. 1855, August 3.—N° 1754.

MEYERSTEIN, WILLIAM. — Machine for sewing by means of a straight needle, worked up and down by a vibrating lever, and acting in combination with a "sledge" or shuttle, which travels in a horizontal circular course,—the straight needle and sledge or shuttle each carrying a thread. The material to be sewed is advanced between the [successive movements of the needle by feeding apparatus capable of being adjusted by turning a screw, so as to vary the length of the stitches at pleasure.

[Printed, 8d.]

A.D. 1855, August 3.—N° 1767.

RICHARDSON, Robert, and GREENSHIELDS, Walter.—
“ This invention relates to the application and use of particolored
“ or figured chenille, composed of wool, wool and silk, or of silk
‘ alone or entirely with the gut, in the usual manner, so as when
“ worked up into finished fabrics, such fabrics shall present
“ symmetrical colored patterns or regular ornamental designs or
“ devices upon their faces.

“This chenille material is or may be woven or manufactured in
“ the usual manner,—yarns or threads of various colors, however,
“ being woven or worked into it, according to the system generally
“ adopted in the manufacture of particolored goods. Such parti-
“ colored chenille material is applicable under various forms; it
“ may be drawn through net, canvass, or other open-ground
“ fabrics, or it may be sewn or otherwise attached to the surface of
“ such fabrics, or upon cloth and other close fabrics.”

[Printed, 6*d.*]

A.D. 1855, August 10.—N° 1809.

HEAVEN, Alfred.—Piercing, puncturing, or cutting holes of various shapes in fabrics by means of stilettoes or punches, applied to the ordinary embroidering machines, or by other means, previous to performing the operation of embroidering or sewing by such machines,—the object being to produce a clear outline in the design, and to make the embroidering or sewing as strong as that performed by hand.

[Printed, 8*d.*]

A.D. 1855, August 16.—N° 1867.

BAKER, William Emerson (*a communication*).—1. Making the stands or frames of sewing machines in the form of a box or case, which is to enclose the machine when out of use, and keep it free from dirt and dust.

2. In order to reduce the dimensions of the box employed, the handle or crank pin on the fly wheel is so applied, that when in use it may project from the outer surface of the wheel, but when out of use it may pass through the wheel.

3. Apparatus for keeping the thread in a state of tension.

4. Mode of securing two parallel rows of stitches, by employing only one retaining thread at the back. In making the two rows

of stitches two needles are used, each having a sewing thread, which it carries through the fabric, as usual, to form the stitch; but instead of two threads being employed to fasten the two rows of stitches at the back, only one thread is used, and the fastening is performed in the same manner as the fastening of the stitches produced by one needle only, except that the under thread is passed through the loops of both sewing threads.

5. Applying apparatus to sewing machines for winding thread on to the machine bobbins.

[Printed, 1*s*. 3*d*.]

A.D. 1855, August 25.—N° 1925.

AVERY, JOHN (*a communication*).—Improvements in sewing machines, consisting in certain means of feeding the material to be sewed, applicable to the working of buttonholes and embroidery; and also to the sewing of curved and crooked work generally.

[Printed, 6*d*.]

A.D. 1855, August 27.—N° 1946.

MOORE, BENJAMIN (*a communication*).—1. Improvements applicable to sewing machines in general (shown applied to a machine having a straight needle for carrying a thread downwards through the fabric and forming a loop, through which another thread is conducted by a shuttle),—consisting in apparatus for holding and feeding the fabric to be sewed, and regulating the length of the stitches; arrangements for taking up the slack of the thread on the downward passage of the needle; combination of cams for moving the levers for actuating the needle and shuttle, and taking up the slack of the needle thread.

2. Self-acting apparatus for sewing or binding hats or similar articles, applicable to any kind of sewing machine,—including suitable arrangements for supporting the hat internally, and forcing the edge of the brim into the binding gauge or guide; for guiding the ribbon or tape used as binding; and for communicating the requisite feed motion to the hat.

[Printed, 2*s*. 2*d*.]

A.D. 1855, September 3.—N° 1982.

HEAVEN, ALFRED.—1. So working embroidering machines *that the greater* part of the embroidering thread is brought on to the face side of the fabric, and only a small quantity of the embroidering thread on the reverse side of the fabric.

2. Employing a shuttle or other instrument to introduce a binding thread at the back of the fabric, whereby the embroidering thread is secured.

3. Providing each embroidering needle with a bobbin, from which the embroidering thread is unwound as it is required, for the purpose of saving the time lost in threading the needles, as in the embroidering machines of the usual construction.

[Printed, 10*d*.]

A.D. 1855, September 14.—N° 2079.

THOMAS, WILLIAM FREDERICK.—1. Applying apparatus to sewing machines for stopping the movement of the work when the needle thread is broken or is not supplied to the needle, or when the second or shuttle thread is not correctly passed through the loop of the needle thread; and also, if no second thread be used, for stopping the machine when the instrument which is employed to take the loop fails to do so.

2. Apparatus for varying the direction of movement of the work from time to time.

3. Combination of parts for causing the fabric or work (or it might be the needle), in place of being moved continuously in one line, so that the stitches follow each other at a certain distance apart, to be moved back a given distance and then forward, so as to obtain a description of back stitch.

4. Arranging or combining the parts of a sewing machine in such manner that the fabric or work, in place of being moved constantly in one direction only, so as to produce the stitches in a line one after the other, has at the same time a lateral movement, first in one direction and then in the other, whereby the stitches are caused to follow each other in inclined directions, and produce a zigzag line of work.

5. Making each stitch of sewing machines a fast stitch, by causing the needle thread to be bent into a loop in front of the fabric or work, and then conducting the point of the needle through such loop and through the fabric, in order to form a loop to receive the back or second thread; or the fastening may be effected by forming the back or second thread into a loop, conducting the

needle thread through such loop, and then passing the back or second thread through the loop of the needle thread.

[Printed, 1*s*. 10*d*.]

A.D. 1855, October 1.—N° 2190.

HOPE, George Curling.—The following extract from the Specification will clearly explain the nature of this invention:—

"Hitherto a description of work intended to be ornamented or "finished by needlework, and known in the trade by the term of "'appliqué,' has been produced by cutting out figures, patterns, "or devices from a textile fabric, and applying them on to grounds "of similar material. Now my invention consists in producing "effects resembling 'appliqué' work, by printing on to textile "fabrics patterns, figures, or devices, either by means of what is "known as 'block printing,' or by means of printing and embossing,—the work thus produced being intended to be subsequently "finished or ornamented at pleasure by needlework. The pattern, "figure, or device may be of a different shade or color, or of different "shades or colors from that of the ground on which it is printed."

[Printed, 3*d*.]

A.D. 1855, October 19.—N° 2344.

SMITH, William (*a communication*). — 1. Producing the stitch known as the "lock stitch" by means of an incased spool or bobbin, caused to revolve horizontally on its own centre or axis (without a reciprocal motion in the line of its axis), in connexion with a needle having a vertical movement. The spool case is a circular box of steel or other suitable material, formed with a "nose" upon its edge for catching the needle thread and carrying it round in order to pass the spool or bobbin through the loop of the needle thread; and motion is given to the spool case in such manner, through the medium of elliptical toothed wheels, that in some portions of a revolution it turns faster than at others, causing a dwell or pause, which in conjunction with the movement of the needle effects a full and complete stitch.

2. Method of driving a spool case, somewhat similar to the spool case above described.

3. Taking up the slack of the needle thread independently of the motion of the needle.

4. Apparatus for cording the edges of fabrics and materials, which may be attached to any ordinary sewing machine, and serves effectually to keep the cord in its place within the hem of the article to be sewed, while the latter is being operated on by the needle and thread, being likewise arranged so that any ordinary knot in the cord, or irregularity in the edge of the fabric, will not impede the progress of the work; also apparatus for guiding and feeding the binding to be laid over and sewed upon the edges of similar articles.

5. Arrangements for driving simultaneously two or more vertical needles, either with one under-side circular or other needle, shuttle, revolving spool, or its equivalent, or in combination with a corresponding number on the under side of the fabric or work, so that two or more parallel rows of stitching may be executed at the same time.

6. Combination of a portion of the last-mentioned arrangement with an improved feed apparatus.

7. Improved apparatus for delivering thread from spools to needles, and regulating the tension thereof.

[Printed, 2*s*. 6*d*.]

A.D. 1855, October 20.—N° 2355.

WHITAKER, Frederic.—"This invention relates to those " descriptions of sewing machines in which two threads are em- " ployed; and the manner in which the stitch is made is as fol- " lows:—The needle passes through the work, and in so doing " carries a loop of its thread through it. This loop is then caught " by a hook, which carries it round and over a globular ball or " box, which is loosely held between suitable supports, and in this " globular box a ball of thread is placed. The end of the thread " is drawn through a hole in the ball, so that when the needle- " thread is drawn over the ball as before mentioned, the ball and " needle-threads are looped through each other. The hook which " catches the needle-thread travels about three quarters round the " ball, so that when the hook gets near the end of its course, the " loop slips off, because of the reversed position of the hook; and " when the needle-thread is drawn tight the stitch is complete, and " the hook returns to take the loop made by another descent of " the needle. The delivery of the thread from the ball is regu- " lated by passing the thread through a small piece of vulcanized

" india-rubber, which gives the necessary friction to the drawing
" off of the thread.

" In place of drawing the loop of the needle thread over the
" ball, as before described, the hook may be arranged to pass
" through the loop of the needle thread, then to catch the ball
" thread and draw it into a loop and through the loop of the
" needle thread, and afterwards pass it over the ball."

[Printed, 1*s*.]

A.D. 1855, November 1.—N° 2442.

BELLFORD, AUGUSTE EDOUARD LORADOUX, (*a communication*).—Improvements in sewing machines, consisting, first, in a peculiar kind of looper, working in combination with a needle to form a stitch with a single thread; secondly, in a method of operating the needle in connexion with the looper, to throw the thread over its point; thirdly, in mechanical means for carrying out the second improvement; and fourthly, in a feed motion for moving the cloth in the line of the seam.

The needle has an eye near its point to receive the thread, which it carries downwards through the cloth to form a loop on the under side near the point of the looper;—such looper consisting of a piece of metal, which is straight, except at one end, where it is slightly curved and pointed; and it is placed parallel to the line of motion of the needle, and below the table or bed of the machine, with the point downwards. Immediately that the needle commences to rise and leave the thread slack, it also begins to turn upon its axis towards the point of the looper, and as it continues to ascend, it draws the thread in the form of a loop over the looper, which, without detaining the loop, merely keeps it open and in position for the needle to pass through in its next descent. When the needle again descends, the loop is drawn over and off the looper by the consequent tension of the thread.

[Printed, 6*d*.]

A.D. 1855, November 12.—N° 2544.

KIDD, JOSHUA.—Relates to sewing or stitching machinery in which two threads are used, one thread being placed in a stationary thread holder, and the other conducted around the stationary thread holder by a needle having a vertical and inclined motion.

Consists,—1. In the application of a stationary thread holder or carrier, of any convenient shape, so placed as to allow a second thread to pass around it.

2. In the application of a jointed needle carrier, whereby the needle which conducts the upper thread is caused to incline or oscillate during its withdrawal from the cloth or fabric, and pass the thread it carries around the stationary thread holder, thus interlooping the two threads together.

3, 4, 5, 6, 7. Arrangement of apparatus for feeding the cloth, and giving motion to the needle carrier and other parts of the machinery.

[Printed, 3*d.*]

A.D. 1855, November 24.—N° 2649.

LOBSTEIN, JEAN.—Improvements in machines for sewing by the employment of a needle having a vertical movement and a shuttle working horizontally,—including arrangements of parts for holding, feeding, and guiding the fabric or work (so as to admit of all kinds of objects being sewed, whether flat or tubular, closed or not at one end, with the sewing in straight, zigzag, or curvilinear lines); also for actuating shuttles of various lengths in the same machine; for regulating the tension of the thread; and for varying the length of the stitch.

[Printed, 1*s.* 1*d.*]

A.D. 1855, December 11.—N° 2791.

HUGHES, BERNARD (*a communication*).— So arranging and operating the needle, shuttle, and other accessory apparatus of a sewing machine that the thread from the needle, when passed through the material to be sewed, is tied by a half or whole knot of the shuttle thread; and also so working the feed motion that the thread shall be tied, at the will of the operator, by a half or whole knot at every or any stitch that may be thought necessary. The needle, which has an eye near its point for the reception of the thread, moves vertically, and the shuttle revolves in a vertical circular shuttle-box, placed parallel to the line of motion of the needle, but below the work plate whereon the material to be sewed is laid. When the needle has carried its thread down through the material, a looper bears the thread across the track of the shuttle, and forms a loop through which the shuttle passes. If it is desired to tie each stitch with a half knot only, the cloth is moved forward as the needle is ascending, and when it again descends, the looper makes another loop, through which the shuttle passes. If a double knot is to be tied, the cloth is only moved at every alternate ascending movement of the needle, which is thus caused to descend a second time into the same hole, and the loop formed is the same as in the first descent, so that the shuttle is caused to pass twice through the same loop.

[Printed, 7*d.*]

A.D. 1855, December, 21.—N° 2894.

MURDOCH, JAMES (*a communication*).—Apparatus for working chain-stitch embroidery by a combination of five instruments; viz., a needle formed with an eye to receive the thread; a tightener to give the requisite tension to the thread; a hook to take hold of the loop presented by the needle; an opener or pusher for opening out the loop into which the needle has to pass; and a hook for fastening off the thread at the completion of each figure or design. These instruments are attached to bars placed moveably in a carrying frame, which is capable of a to-and-fro motion across the frame of machine, and the bars receive the requisite motion from a series of cams. The pattern is formed by means of a jacquard machine, which, by causing the cloth to ascend or descend, and the carrying frame to move to and fro across the face of the cloth, brings the needle opposite the required parts of the cloth, in order to form the design. To produce each stitch, the needle carries the thread through the cloth in the form of a loop, which is caught by the hook, and drawn laterally. The opener or pusher expands the loop, so that the needle, in its next advance, may pass through it; and when this takes place, the hook and pusher abandon the loop, and the hook, catching the new loop presented by the needle, draws the same laterally, as before.

The needles in the above-described apparatus are all fixed on the same bar; but a modification is described, in which the needles are mounted independently of each other on the same bar, and, by means of the jacquard apparatus, any required number of needles may be worked simultaneously, and the stitch or stitches of one or more needles may be fastened off without interfering with the motion of the other working parts.

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